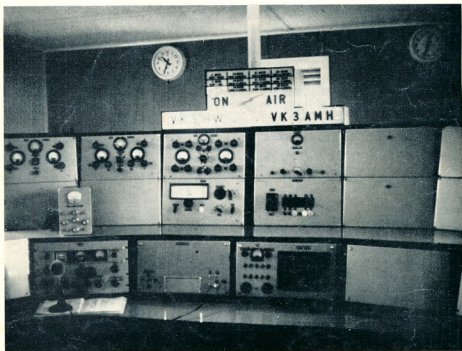


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JUNE 1963



Vol. 31, No. 6



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★

OUR COVER

The inside of VK3HW and VK-3AMH looks like a "commercial" set-up. It is a credit to Australian Amateur Radio, and complements the previous cover photo of their aerial array.

FEDERAL COMMENT

★

A FUTURE IN ADMINISTRATION

Every Radio Amateur is deeply concerned about the future. Many vociferously clamor for preparations to be made for the battle to retain Amateur rights and privileges at the next I.T.U. Conference—extension of privileges now, or for this or for that action to be taken.

WHO IS GOING TO DO ALL THESE THINGS?

In order to carry out the wishes of its members and properly represent the Australian Amateur, the W.I.A. must have fully manned Federal and Divisional Councils backed by active sub-committees consisting of qualified personnel.

There are some who claim that the old experienced members of these bodies are getting too long in the tooth and that young blood should be injected into the organisation.

We could not agree more; however experience indicates that enthusiasm and zeal must be tempered with sagacity borne of experience.

The time was never more opportune for the formation of active working committees employing younger personnel to tackle our major problems and prepare to step into the shoes of the oldsters as they relinquish the burden.

What better way is there of achieving continuity of administration, tempered with the wisdom of experienced administrators?

Those members who are prepared to serve such an apprenticeship will enjoy the fruits of their labor in the part they play in insuring the future of both the W.I.A. and their fellow Amateurs. The administrative experience so gained will in itself be a valuable asset in everyday life.

FEDERAL EXECUTIVE, W.I.A.

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A Broad-Band, Bandswitched, Crystal-Locked Converter

A. S. MATHER,* VK2JZ

A CRYSTAL-LOCKED Converter provides a cheap and effective way of improving the performance of almost any superhetrodyne receiver.

This unit was made up to use in connection with my s.s.b. modified AR7 which has a Band C coil box, modified to allow it to tune from 3.5 to 4.0 Mc. through the complete tuning range of the dial, from approximately 500 to 0.

The 7, 14, 21 and 28 Mc. signals are heterodyned so they are tuned with bandspread on the 3.5 to 4.0 Mc. range of the receiver.

Thus we now have a double conversion superhet. with a crystal-locked high frequency oscillator, better image rejection, bandswitching, bandspread and greater stability as the 2nd h.f. oscillator is tuned from 3955 to 4555 Kc. for all bands.

Numerous articles have been written on crystal-locked converters and they are all basically the same with the exception of the type and frequency of the crystal oscillator.

It is hoped that the following article may be of interest to those wishing to improve their receiver performance.

THE CRYSTAL-LOCKED OSCILLATOR

Four FT243 crystals with fundamental frequencies of 3.633 Mc., 3.500 Mc., 5.833 Mc. and 8.166 Mc. are used on their second overtone of approximately 10.8 Mc., 10.5 Mc., 17.5 Mc. and 24.5 Mc. to convert the 7 Mc., 14 Mc., 21 Mc. and 28 Mc. bands to the 3.5 Mc. to 4.0 Mc. tuning range of the receiver.

* "Wolaroi," 14 William St., Singleton, N.S.W.

The harmonics above the fundamental are called the overtones of the fundamental.

Most magazines refer to 3rd overtone operation of say a 3.5 Mc. crystal as oscillation on a frequency a few kilocycles lower than its 3rd harmonic with no output on the fundamental or 2nd harmonic, that is 3.5 Mc. or 7 Mc.

I will use this convention as far as the mode of operation is concerned, but as the 1st overtone equals the 2nd harmonic, operation of a 3.5 Mc. crystal at a frequency of approximately 10.5 Mc. is the 2nd overtone and not the 3rd overtone as generally stated.

I will not attempt to discuss the theory of overtone crystal oscillators, which has been discussed before in "A.R."† but the most important fact is that when the feedback is correctly adjusted and the plate circuit tuned, oscillation at the series resonate frequency will take place at the 2nd overtone, which is a few kilocycles lower in frequency than its 3rd harmonic. However, as stated, only oscillation at this and higher frequencies is obtained and none at the fundamental and 2nd harmonic. So you can see the injection frequency is always 3.5 Mc. lower than the tuned frequency with the exception of the 7 Mc. band when it was approximately 3.8 Mc. higher and the receiver tunes backwards from 3.8 Mc.

This is a slight disadvantage, but there appears to be no satisfactory way of tuning the 7 Mc. band from 3.5 Mc. higher, as with the other bands, without using a 3.5 Mc. crystal on its funda-

mental and that puts a hefty 3.5 Mc. signal at the band edge.

Needless to say, using crystals on other frequencies and turning backwards or forwards on various receiver frequencies open other possibilities. It would be possible to use a 3.5 Mc. crystal with the oscillator coil tuned with switched condensers to oscillate on its 2nd, 4th and 6th overtone to give forward tuning at 3.5 Mc. on 14, 21 and 28 Mc., and backward tuning from the 2nd overtone at 10.5 Mc. to give 7 Mc. coverage from 3.5 to 4 Mc. on the receiver.‡

The value of the injection voltage would not be the same for each overtone as the voltage output will decrease as the overtone frequencies get higher, which could be a drawback. However, it has the advantage of saving three crystals and three inductances.

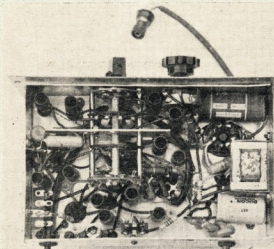
It should be obvious that unless considerable and, I think, unnecessary care is taken with the selection of the crystal frequencies, owing to the overtone operation being slightly lower than the 3rd harmonics, all band edges may not be on exactly 3.5 Mc. on the receiver.

OVERTONE OPERATION

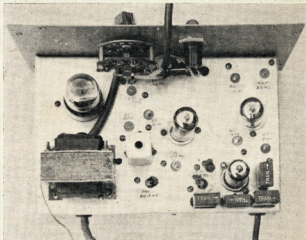
As stated before, overtone operation only of the injection crystal oscillator is most important, because if the signal you get at say 10.5 Mc. also appears at 3.5 Mc. and 7 Mc., then the possibility of spurious signals, birdies and images is greatly increased, as they can beat with the incoming signal and harmonics of the receiver h.f. oscillator and i.f. frequencies.

† "Using Overtone Crystal Oscillators," "A.R." Aug. 1960.

‡ Page 51, "QST" May 1960.



Under-chassis view of VK2JZ Converter. Around SW1 are the various coils. Those nearest front panel are L1 and L2 for (left to right) 28, 21, 14 and 7 Mc. Below these are L3 for (l. to r.) 7, 14, 21 and 28 Mc. L4 coils are located at rear of SW1 (l. to r.) 7, 14, 21 and 28 Mc. Mounted on right hand side of chassis is the h.t. choke.

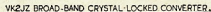


Above-chassis view of VK2JZ Converter. Grouped around the 6C4 oscillator can be seen the four crystals. Other valves (left to right): 6X5 rectifier, EF85 mixer, EF85 r.f. The switch shown is SW2, to the right of which is the pilot holder. Output i.f.t. is to right of power transformer.

Once the correct value of feedback is found, for one crystal, it should be OK for the remainder and only the coil slugs will have to be adjusted. It

* With parallel 10 pF. condenser.

Remove any parallel fixed condensers and enough turns (about three-quarters of them) so the coil will resonate at 3.5 Mc. with the internal capacity of the mixer and its own slug. Remove the other coil and wind on about ten turns of No. 26 gauge enamelled wire. Some converters feed the mixer with a 2.5 mH. R.F.C. and take the output through a 0.01 μ F. condenser to the receiver. Whilst this would be high impedance, it would suit most of the older receivers.

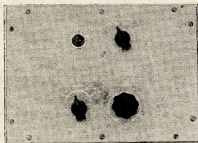


R.F. STAGE

The r.f. stage is quite conventional and any high Gm tube such as the 6AH6, 6CB6 or 6BZ6 would be satisfactory. A 6F85 or its equivalent, the 6BY7, is used here because its equivalent noise resistance of 1,500 ohms makes it an excellent tube for broadband operation and it is used extensively in t.v. vision i.f. channels.

A gain control is used in the cathode circuit and it is normally left in the maximum position except on very strong signals.

It should be noted that the signal-to-noise ratio delivered by the r.f. stage determines the overall signal-to-noise ratio of the receiver. Therefore, improvement in the noise figure on weak signals can be obtained by running the converter flat out and controlling the gain by r.f. control on the receiver, because as the gain of the r.f. stage of the converter is reduced, the Gm is reduced and the noise figure is increased.



Front panel of the VK2JZ Broadband, Band-switched, Crystal-Locked Converter. Controls: top right, converter in/out; lower left, band switch; lower right, r.f. gain. The pilot is seen in the top left.

BROADBANDING

You will notice that the various coils resonate with their own inductance, tube capacities and circuit strays. Some constructors may prefer to tune the grid circuits of the r.f. and mixer stages, but even if ganged this means another control and tracking problem and the gain is more than adequate now. I have not measured the signal-to-noise ratio, but it seems to be excellent. Although the number of turns for each coil is given, these are the values I started with, as suggested by VK2BK and some pruning will most probably be necessary. It was beyond me to count the turns after I had them mounted in the converter.

A g.d.o. is almost a must for any constructor and it will be evident that you will need to use one to get the coils right in the middle of the pass-band, particularly the 3.5-4 Mc. output i.f.t.

Be sure you wind them so they obtain the best possible effects from the slug tuning.

When the unit is operated the slugs can be adjusted for the best broadband characteristic before locking.

CASE

The whole unit was made up in a standard metal case, 9" wide, 6 1/4" high

and 5 1/2" deep, with the two switches, gain control and pilot mounted as shown. The antenna terminals, output co-ax and h.t. transformer c.t. are all brought out the back. I used a 6X5 because I had one on hand. It would save considerable space and heat if two silicon diodes such as OA210s were used, or the required voltages could be taken from the receiver.

It is important to take the output co-ax from S.W.2 inside the case to the antenna terminals on the receiver, as no other pick-up must reach the receiver terminals other than from the converter.

UPPER SIDEBAND-XYL TYPE

I know all about being a beginner's wife, experience has taught me nearly all the do's and don'ts. A Radio Ham's wife needs to possess endurance, real stamina, courage in the face of great odds and enough cussedness to get her own way when it really matters.

My husband started off in a small way by owning and operating a set attached to the Flying Doctor base at Port Augusta. He has always been interested in radio and having whetted his appetite he got more and more enthusiastic as time went by. Two shifts later, one to Adelaide and the other to Port Pirie, he has really got into his stride. When we shifted from Adelaide to Port Pirie he was faced with the heart-rending (for him) decision that he would have to part with some of his gear (junk to the peasants). He still speaks in hushed tones as he tells fellow Hams how he wheeled out three wheel-barrrows full and gavel them away.

We went through agonies while he was studying for his Limited Licence. He used to attend talks given by one of the local Hams every Tuesday night then he would bend my ear for the rest of the week until I could have quoted Ohm's law in my sleep. As if this wasn't bad enough, he then took to studying turn about at home with another fanatic (that's what they are though they emphatically deny it). During these sessions no one was allowed to breathe.

At last the great night came. My husband had the shakes and his friend's ulcer was playing up, but off they went, supporting each other. No sooner was the exam over than home to our place and over incessant cups of coffee (if your husband shows any interest in radio, immediately ask for an increased housekeeping allowance) went through every question. The friend was feeling despondent as he hadn't anywhere near completed the paper, but my better half had and he went from the heights to the depths and back up again as he stewed over what he had written.

Well then, of course, we had to wait for the results. He used to ring me up every morning and afternoon to ask if there was any sign of his results. For six weeks we waited, and believe

Shielding is used between r.f. and mixer banks of SW1, but it may not be necessary.

CONCLUSION

No doubt constructors will have their own ideas as to components, crystal frequencies, number of crystals, placement of parts, etc. The circuit values are not critical and common sense variations from the values marked would be in order.

This is a description of a unit which overcomes most of the shortcomings of other converters I have used and an old receiver can be made capable of greatly improved performance. ●

me they were the longest six weeks of my life. Then at last the letter came that said he was the possessor of a Limited Licence.

Well, if he'd won the lottery he could not have been more pleased. He danced around the kitchen, whizzed the children, hugged me, laughed, joked, stood up, sat down, and generally carried on like he'd taken leave of his senses.

I thought things would quieten down then, but no, he had to get a receiver and transmitter on the air and build this, that and the other. It's impossible to listen to our radio inside for drilling noises and my cake tins disappear to act as cases for various converters, etc., and to cap it all he's had me out doing a balancing act on his shoulders, cutting wire so that he had enough to put up an aerial. I might add I get shaky on a chair.

Now he's learning Morse and I'm going to petition that it be admitted as grounds for divorce.

He has now taken on being the Secretary of the local Radio Club. Of course you know who does all the typing, etc., and most of the running around. He hasn't got the time!

Well I guess I'm stuck with him. I took him on for better or worse, but surely it can't get much worse than this.

If you have a husband who is just starting to take an interest in being a Radio Ham, I suggest that you steer him to other interests, before it's too late.

—XYL, VK5ZEG.

SUBSCRIPTIONS

● Please pay your Subscriptions PROMPTLY when due. Failure to do so may result in the loss of valuable issues of "Amateur Radio." High costs of production make it necessary to limit the number of extra copies printed each month.

A SWEEP GENERATOR FOR 455 Kc. I.F. ALIGNMENT

B. L. McCUBBIN,* VK3SO, M.T.E.T.I.A.

TO those familiar with t.v. alignment techniques the sweeper is an essential tool. No other method permits the rapid accurate setting up of the i.f. response curve possible with a sweeper, yet we nearly all stick to the time honoured method of aligning our receivers and steam radio sets with a signal generator and output meter.

The piece of equipment to be described can be built mainly from the junk box. Most Hams will not need to shop around for anything but the Semi Cap.

The accepted type of sweeper as used for t.v. work generates its sweep at v.h.f. and this is then heterodyned to the desired spot. The author's aim was to directly sweep a 455 Kc. oscillator, thus making the equipment as simple as possible.

Many possible methods of sweep were tried and discarded for various reasons. One, which looked very promising, was the Wobulator available ex disposals. This device has a metallic diaphragm which, unfortunately, suffers from fatigue and does a "King's Bridge" after a few hours work.

The saturable reactor type is not sufficiently linear for really good results.

Motor driven condensers, also, are difficult to make linear and are difficult to synchronise with the c.r.o.

3 Kildare Street, Burwood, E.13, Vic.

● With the increasing interest in s.a.b. and the need for accurate setting up of filters and selective i.f. channels the common method of laboriously graphing response curves is too much of a time waster. This sweeper will enable you to do in minutes what previously required hours.

This leaves us a little device which came on the market a couple of years ago. It is called a Semi Cap and looks like a silicon power diode. When properly used it will vary its capacity over a range of 3 to 30 pF, and can easily be controlled with sinusoidal a.c.

A sweeper generator to fulfil its requirements must be linear over the full swept range, must be capable of synchronisation with a c.r.o., must have variable sweep width and controllable output.

The first requirement is met by the semi cap in that the capacity variation is linear with applied voltage.

The second requirement is simply achieved by using 50 cycle a.c. for both modulation and c.r.o. sweep.

The use of a.c. for this purpose introduces a further complication in that the i.f. under test is swept in both directions and exact superimposition of the

forward and return trace is difficult. This is simply overcome by keying the oscillator with a 50 i.p.s. negative going square pulse of half cycle duration. Control of the output is gained by using a medium cut-off r.f. pentode as an electronic attenuator.

Low impedance output is obtained by the use of a cathode follower output. If high level output is desired, it can be taken direct from the attenuator anode.

There are three controls on the panel. These consist of a phase shift for the c.r.o. X amp. drive, sweep width control and output control.

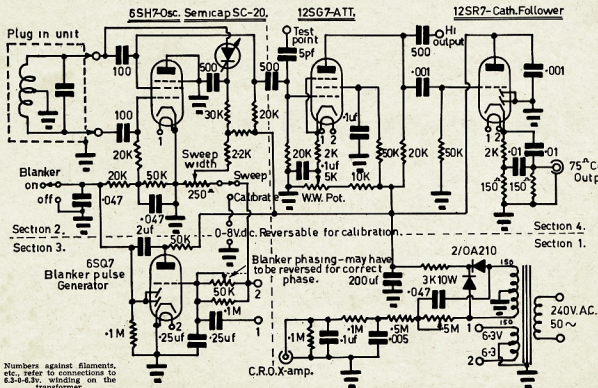
A second phase shift network will be seen in the grid circuit of the 6SQ7 blanking pulse generator. This control once set needs no further adjustment and can be mounted in any convenient position.

All valves used in the r.f. section are of the metal variety—because they were on hand and do not need screening.

THE COIL

The coil is made plug-in and has its own shield can. It consists of two bobbins from an old 455 Kc. i.f. tranny pushed close together, the junction between the two bobbins being a convenient centre tap and is earthed.

N.B.—The centre tap on the coil is not necessary for the operation of the



oscillator. Its function is to complete the circuit for the semi cap bias and modulating voltage.

The coil is tuned by a 50 pF. mica condenser which brings the frequency down too low, so a brass slug is used to reduce inductance and hit the required 455 Kc.

The use of plug-in coils makes other frequencies easily available if required.

CIRCUIT

The power supply and phase shifting network for the c.r.o. X amp. drive is perfectly straight forward and should need no explanation.

The oscillator should need no explaining except for the queer hook-up of the tube. This was done to reduce anode current.

The heart of the device, the semi cap modulator, is a modified form of silicon diode and when a voltage is applied changes take place within the barrier which vary the effective capacity of the device. There are some catches, however. The applied voltage must always be in the back direction, otherwise current will flow. Therefore it becomes necessary to superimpose the a.c. modulating voltage on to a d.c. bias of such magnitude that the cathode end of the semi cap never goes negative. In this case the author used 9v. d.c. and a maximum of 6.3v. a.c. This gives a range of approx. 18.5v. which is adequate for the purpose. 9v. \pm 6.3v. r.m.s.

The method used of adding the a.c. to the bottom of the bias supply causes a small shift of centre frequency with change of range, but, since the range is usually set and left, this does not matter.

In the blanking pulse generator, a.c. is applied to the grid of the 6SQ7 and during the positive half-cycle the tube saturates, whilst during the negative half-cycle it cuts off. This produces a step change in the anode voltage which is passed on to the diode section where it is squared up. This negative going pulse is not quite half a cycle in duration and because of this, the sweep pattern has a slight curl at each end. This is of very slight consequence and can be disregarded.

The electronic attenuator and cathode follower should not require any explanation, apart from the fact that R.C. coupling is used throughout.

The reason for this is that to be of any use a sweep generator must not only produce a change of frequency which is linear with time, the output level must remain constant through the entire swept range.

Therefore tuned circuits and even r.f. chokes, anything in fact that can possess a response curve of its own, must be left out of the amplifying and

attenuating circuits. Valve anode loads are kept low to ensure linearity.

So much for the description of the circuit and the reasons why these things are so. Nothing now remains but to add a few notes for the constructor.

Choice of valves. For the oscillator and following stages, any tubes that have a remote relationship with the ones used in the original version should work except that the r.f. pentode used as attenuator should not be of the remote cut-off type. The bias required to reduce the output to zero will be excessive.

The best layout for the oscillator, attenuator, etc., section is a straight line, starting with the coil at the rear of the chassis and progressing forward through the stages, or, alternatively, the same line-up across the chassis. Any line-up which puts the output circuit near the oscillator should be avoided as this will lead inevitably to a leakage of r.f. from oscillator to output and will spoil the operation of the attenuator.

For the blanking pulse generator the choice of valves is strictly limited, the 6SQ7 or 6AV6 being the best choice here. Tubes with lower μ are unsatisfactory unless the grid drive is raised to very high levels.

Silicon diodes were chosen for h.t. rectification because the power transformer was very small and the saving of a few watts of filament power was important. If you use a larger transformer there is no reason why a thermionic rectifier should not be used. Similarly, the 200 μ F. filter condenser was used only because it happened to be available. A normal type filter using a choke and a pair of 8 μ F. electrolytics would serve equally well.

The use of the 3,000 ohm resistor as a filter element reduces the on-load h.t. voltage to 80, but this is quite sufficient for the purpose. In fact upon testing the effect of raising the volts to 200, resulted in no noticeable effect on performance. True there was more output but this only meant that the attenuator had to be backed off to get the pattern back on to the c.r.o. screen.

One further note to add here is that marking techniques, as used for t.v. alignment, are unsatisfactory at this low frequency and possibly the most satisfactory method is to calibrate the sweep by applying a reversible d.c. voltage to the sweep width pot. and calibrating the sweep range up and down, remembering to convert from r.m.s. to peak values when converting the calibration back to a.c. Remember also that a separate calibration will be required for each coil if you decide to make coils for other frequencies.

For those who use i.f. frequencies lower than 455 Kc. you will find that a single semi cap will not produce the required range of sweep, even two in parallel may not be enough. The best solution to this problem would be to add a v.f.o. and mixer and heterodyne the sweep to the desired frequency.

It is felt that the foregoing has got a bit long winded for one issue of "A.R." so will QRT now. If there is sufficient interest another article will be prepared on use of the sweeper. ●

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The Overtone-Harmonic Crystal Oscillator*

FRANK C. JONES, W6AJF

THE odd name of this crystal oscillator is an attempt to classify its unusual operation. Nearly all oscillators either work towards a harmonic output of the fundamental frequency of the crystal, or at an overtone frequency of this fundamental. This new oscillator does both; it oscillates at the third overtone of the crystal, then multiplies to the second or third harmonic of this overtone frequency. Gas triode tube, or one transistor, does the usual work of two in the design of crystal controlled v.h.f. or u.h.f. converters for receivers.

The circuit shown, Fig. 1A, is about as simple as can be designed, considering the functions involved. The circuit oscillates at the overtone frequency, 43.333 Mc, for example, in the cathode of the 6AK5. The values of L1 and C1 are not critical but should resonate at from 20 to 30 Mc. when using third overtone crystals of 35 to 48 Mc. L1 varied from 1 to 10 microhenrys in the test circuits with a small variable condenser of 5 to 30 pF. for C1. It was found that values near 1 microhenry were too small for some tubes and crystals. A 4 microhenry radio frequency choke coil seemed to work effectively with all overtone crystals in the range tested (from 20 to 48 Mc.). Th lower frequency crystals required a little increase in C1 value for maxi-

● The old fashioned "oscillator string" in v.h.f. converters may be a thing of the past thanks to this new oscillator circuit. An ordinary overtone crystal may be used to provide outputs in the 100-150 Mc. region with only one tube or transistor. An excellent 2-metre converter is described using the new circuit.

tuned to the output frequency, lightly coupled together with about $\frac{1}{2}$ pF coupling capacity. The second tuned circuit would then be coupled to the mixer. The added selectivity at 130 Mc. would add 20 db. or more of attenuation to the undesired second and fourth harmonics, 86.666 Mc. and 173.333 Mc. A single high Q circuit at 130 Mc. will do a fair job, but two circuits make the problem easier to solve.

Many different tubes were tested in this circuit. The two types that produced the greatest output voltage at 130 Mc. were a 6AK5 triode-connected and a 6CW4 nuvistor triode. An arbitrary value of $\frac{1}{2}$ watt input was chosen, in comparing tubes. A variable B+ supply and 0 to 5 mA. plate current meter were employed. In general, the triodes with highest Gm at low values

The transistorized circuit of Fig. 1C functions in the same manner with very good third harmonic output at 130 Mc. when using third overtone 43.333 Mc. crystals. A diode r.f. voltmeter connected across the collector circuit, L2-C2 indicated output voltages of from 1 to 5 volts peak when using an 8.4 volt battery supply. This was less than half as much as obtained from a 6AR5 tube but the power was considerably less than one-half as much. This indicates better system efficiency for transistors, even neglecting tube heater power loss.

Several types of Philco transistors were tested in the circuit of Fig. 1C. The surplus type marked T2040, supposedly a 250 Mc. cut-off type, gave about twice as much 130 Mc. output as other types tested. No complete measurements were made as to exact input and output power. The 2N1745 transistor worked as well as the 2N1742 and 2N1744 so at the price differential the 2N1745 had preference. A 50 Mc. type 2N1728 would produce some output up to 130 Mc. but only about one-third as much as a 2N1745. Since the circuit was set up for 130 Mc. output, transistors designed for v.h.f. or u.h.f. are necessary.

In Fig. 1C, the connection between L1 (4 microhenrys) and R1 should be bypassed as shown. If no bypass is used, R1 will offer enough impedance at the fundamental frequency of the crystal (approximately 14.5 Mc. for 43.333 Mc. overtone crystals) so oscillation will take place at about 14.5 Mc. The 130 Mc. output would then be greatly reduced. A radio receiver was used to check 14.5 Mc. and 43.333 Mc. oscillation. The latter frequency is necessary since the transistor or tube only has to multiply by three. Asking it to multiply by nine is too much!

The output circuits shown do not indicate any method of coupling to another circuit or to a mixer. The usual forms of inductive or capacitive coupling are suitable.

Overton crystals are low-power type devices, so are suited for use in receiver converters where the r.f. power requirements are usually less than a milliwatt or two. When this circuit is used in a transmitter it should be followed by a high gain amplifier since an attempt to get a good fraction of a watt from this system will lead to crystal overheating and poor frequency stability. As long as the required output power is in the low milliwatt region, excellent frequency stability can be obtained for either receiver or transmitter circuits.

PROTOTYPE TWO-METRE CONVERTER

The 144 Mc. converter shown in Fig. 2 was built and used for a few weeks. It had good gain and low noise characteristics but was difficult to adjust properly. Because of the loss in the diode mixer, gain has to be added in

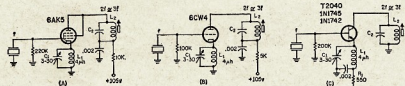


Fig. 1.—The Overtone-Harmonic Crystal Oscillator using a standard tube (A), a nuvistor (B), and a transistor (C). Third overtone crystals in the 35-48 Mc. range require L1 and C1 to resonate between 20 and 30 Mc. Output tank L2-C2 should resonate at desired 2f or 3f freq.

mum output at the second or third harmonic of 40 to 96 Mc. and 60 to 144 Mc., respectively. The values of C2 and L2 should resonate at the desired output frequency with either C2 or L2 being variable in order to take up the tube capacity and the detuning effect of C1.

In the writer's tests the main work has been done with 43,333 Mc. triode harmonic crystals producing 130 Mc. output for coupling to a mixer. This provides the usual 14 to 18 db. gain. The output for the 144 to 148 Mc. Amateur band. Since the tube or transistor does produce harmonics, the Q of L2-C2 should be as high as practical design will allow. Otherwise undesired harmonics will reach the mixer circuit and produce spurious signal responses from strong signals well outside of the desired Amateur band.

Good design would seem to indicate the use of two medium Q circuits

of plate current functioned best in this circuit. The 6AK5 and the 6CW4 produced from two to three times as much output at 130 Mc. as could be obtained from over a dozen triodes tried. Tubes such as 6BH6 and 6AU6 functioned fairly well when operated as screen grid tubes with the screen tied to the plate coil by-pass condenser. On the other hand, 6AK5s gave more output as triodes than as screen grid tubes in the tests to date.

This circuit requires good active overtone crystals for best results. Ten fundamental frequency crystals at about 11 Mc. were available for test. About one third of these would oscillate at the third overtone and produce a small output near 130 Mc., the fourth harmonic of the overtone frequency. The cathode feedback system is not a very efficient means of making a crystal oscillate at third overtone, so regular overtone crystals are necessary and tubes such as the 6AK5 or 6CW4 are preferable.

* Reprinted from "CQ," February, 1963.

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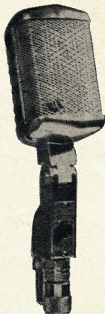
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to 20 mA. of plate power and 6.3 volts a.c. up to 1 ampere for heater circuits. A two section switch changes heater supplies and i.f. outputs to the receiver. Each converter connects to its own antenna with no switching is required on the inputs.

In testing this converter of Fig. 3 a grid dip oscillator is useful in aligning the tuned circuits to the approximate frequency. The four r.f. circuits were aligned to about 145 or 146 Mc. and the two oscillator coils adjusted to 130 Mc. before connecting the unit to a power supply. The r.f. stage plate tuning condensers were adjusted for about equal capacities in this step. A test signal generator in the two-metre band is used in the remaining tests. The unit is then connected to the power supply with the r.f. gain control dis-

connected entirely. A strong signal input will produce a signal in the i.f. output range if the crystal oscillator is functioning.

Fortunately this type of oscillator has a fixed oscillator circuit for the 43.333 Mc. overtone crystal so if the wiring is correct it will oscillate weakly at 43.333 Mc. in the cathode and grid circuits of the nuvistor oscillator tube. The plate circuit and its loosely coupled circuit are then peaked to produce maximum signal in the receiver from the test signal generator. Two tuned circuits of moderate Q were used to make sure that only the third harmonic of 43.333 Mc. (130 Mc.) was coupled into the mixer grid circuit. Too much oscillator injection voltage will usually produce spurious responses somewhere in the 14 to 18 Mc. output range; too little reduces the converter gain and causes some loss in noise figure also. The "gimmick" coupling condensers, short pieces of insulated hook-up wire are twisted together to produce coupling capacities in the range of 0.25 to 1.5 pF. A 0.5 pF. capacitance requires a single twist with small hook-up wire but with small conductor heavily in-

olated wire one or two twists may be needed.

A larger capacitor of from 0.66 to 1.0 pF. is needed for coupling between the r.f. plate circuit and the next slug tuned circuit since the circuit is approximately centre-tapped by the two tuning condensers and associated shunt capacities. Neutralizing is accomplished by adjustment of each plate condenser running one in and the other out by equal amounts so as to maintain correct two-metre resonance. By unbalancing these two capacitors, a fixed 10% ceramic 1 pF. capacitor can be used to neutralise the nuvistor triode grid to plate capacity of about 0.9 or 0.95 pF. If both plate condensers are adjusted simultaneously in opposite directions one can watch the receiver S meter indication for best neutralisa-

The mixer plate circuit is coupled to the main receiver through a fixed tuned pi circuit consisting of a small 17 to 20 microhenry peaking coil and two capacitors. The ratio of these capacitors should be 5 or 10 to 1 between the low impedance side and the plate or high impedance side. The 3 pF. capacitor plus tube output capacitance, etc., adds up to about 5 or 6 pF. A two or three foot length of RG-59U coax line from the converter to the receiver will form the larger capacitance of the pi circuit. If the lead is shorter than this, a small capacitor can be connected across the output jack to build up the capacity to around 50 pF. If larger capacities are used with a smaller peaking coil to resonate at the middle of the r.f. range, the mixer output will not have as good a bandwidth. The values used in Fig. 3 produce a fairly flat 4 Mc. bandwidth.

The converter has the same noise figure as one with two 5842/417A triodes in a cascode stage and a triode-mixer converter in comparison tests with a diode noise generator. The 5842 tubes were in reasonably good condition in a converter normally used for two metre DX work.

TECHNICAL ARTICLES

Readers are requested to submit articles for publication in "A.R." in particular constructional articles, photographs of stations and gear, together with articles suitable for beginners, are required.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

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VK5AB	45 275	VK3ATN	26 204
VK6KX	43 274	VK4HR	12 192
VK3AHF	51 268	VK4RV	23 184
VK4FJ	21 247	VK3GB	50 183
VK6KW	4 211	VK2JZ	61 180

Amendment: VK3T 45 129
VK2AGH 55 107
New Member: VK3TL 62 100

C.W.

Call No.	Cer. Cnt-ries	Call No.	Cer. Cnt-ries
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VK3CX	26 294	VK3RP	36 239
VK2QL	5 279	VK3FH	15 226
VK4FJ	29 277	VK3BZ	6 222
VK2NC	12 266	VK3C	23 220
VK6RU	18 240	VK4HR	8 218

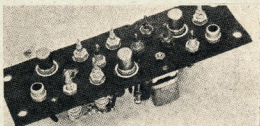
Amendment: VK3X 75 206
VK3HJ 42 199
VK3ARX 66 209

New Member: VK3TL 76 121

OPEN

Call No.	Cer. Cnt-ries	Call No.	Cer. Cnt-ries
VK3ACX	6 300	VK3NC	77 269
VK6RU	8 290	VK3HG	3 269
VK4FJ	32 285	VK3JA	43 252
VK6KX	14 276	VK4HR	7 233
VK2AGH	53 272	VK3BZ	4 231
VK3AHF	76 271	VK3WL	43 225

Amendment: VK3TL 85 162



Overall view of the 2 metre converter showing parts placement. The three objects placed among the slug tuned coils and capacitors are feedthrough type capacitors used in this case as by-passes. Input is at the right.



Underchassis view of the 144 Mc. nuvistor converter using the Overtone-Harmonic Crystal Oscillator. The input is at the far right with the piston-type r.f. amplifier plate tuning capacitors (can be seen to the left of the 6D54 socket). The 6CW4 oscillator is at the corner of the copper-laminate board chassis.

connected entirely. A strong signal input will produce a signal in the i.f. output range if the crystal oscillator is functioning.

Fortunately this type of oscillator has a fixed oscillator circuit for the 43.333 Mc. overtone crystal so if the wiring is correct it will oscillate weakly at 43.333 Mc. in the cathode and grid circuits of the nuvistor oscillator tube. The plate circuit and its loosely coupled circuit are then peaked to produce maximum signal in the receiver from the test signal generator. Two tuned circuits of moderate Q were used to make sure that only the third harmonic of 43.333 Mc. (130 Mc.) was coupled into the mixer grid circuit. Too much oscillator injection voltage will usually produce spurious responses somewhere in the 14 to 18 Mc. output range; too little reduces the converter gain and causes some loss in noise figure also. The "gimmick" coupling condensers, short pieces of insulated hook-up wire are twisted together to produce coupling capacities in the range of 0.25 to 1.5 pF. A 0.5 pF. capacitance requires a single twist with small hook-up wire but with small conductor heavily in-

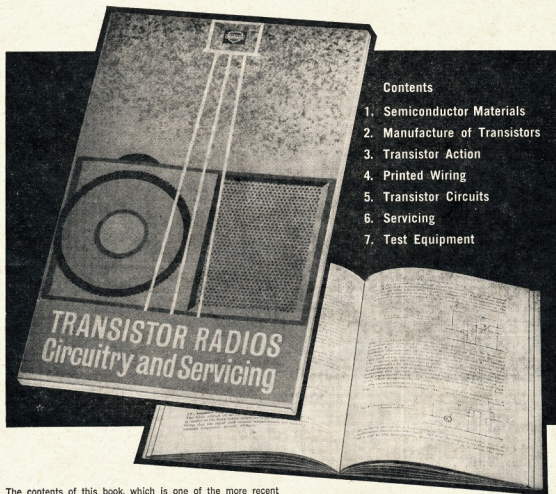
tion. For any one setting on one condenser, the other is adjusted for maximum S meter reading. Then adjust in small steps until the S meter reading is at a minimum. The unit shown was adjusted in this manner. Then when the r.f. gain control lead was connected and the gain control set at zero resistance, a 40 db. increase of signal resulted—about seven points on the meter.

The input circuit and antenna tap are always adjusted for best signal-to-noise ratio or noise figure. This means tuning this circuit not for maximum gain, but for best noise figure. The circuit will be set near 144 Mc. for best noise figure over the 144 to 148 Mc. range. The two slug circuits between the r.f. stage and mixer are adjusted for best average overall gain in the converter over the whole two-metre signal range. A diode noise generator or test signal generator can be used for this purpose while tuning the main receiver over the range between 14 and 18 Mc., corresponding to r.f. signal inputs between 144 and 148 Mc. The grid leak condenser in the r.f. stage is only for tube protection when using a high powered transmitter nearby.

Page 11

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ROSS HULL MEMORIAL V.H.F. CONTEST 1962-63 RESULTS

The Federal Contest Committee takes pleasure in presenting herewith the results of the 1962-63 Ross Hull Memorial V.H.F. Contest. Many comments have been received regarding the Contest rules and the scoring system and the Contest Committee hereby acknowledges those who so contributed. It is the intention of the Contest Committee to sum up all comments submitted by contestants and if warranted submit a recommendation to Federal Executive. At the same time, contestants must realise that it would be impossible to compile a set of rules that would be one hundred per cent. acceptable to everyone, and so a compromise has to be made somewhere along the line.

Honours for this year go to VK4ZAX whose mammoth score of 8,797 points was indeed a really fine individual effort. Our congratulations also to the other award winners, and in conclusion we wish to thank all those contestants who submitted logs.

—Federal Contest Committee, W.I.A.

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VK4ZAX—D. R. Horgan 8797 pts.

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2ZDA—Miranda 692
2ZPJ—Wahroonga 563
2ASI—Inverell 412

2ZBP—Illabo 400
2BQ—Warrabee 344
2RX—Bexley North 341
2ABR—Milperra 163
2ZPB—Ashfield 74
VK3NJ—Essendon 1277
3ZGP—Fawkner 831
3QV—East Malvern 804
3ZNB—Anderson 677
3ABP—Altona 436
3ZLP—Warrington 333
3FN—West Preston 129
3ZNR—Boronia 122
3ZGL—Keon Park 95
3AIG 85
3ZJA—Check Log 8797
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VK4ZAX—Yerronnepilly 2810
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5ZBJ—Gawler East 1304
5ZHZ—Gawler Rail 834
5ZEZ—Goodwood 474
5WV—Elizabeth North 380
5ZCD—Mundalla 344
5AX—Gawler 5102
5ZBC—Mile End 3486
5GG—Check Log 344
5LZ—Check Log

5NW—Check Log 502
5TM—Check Log 1010
5CL—No mileage shown, disqual.
5ZSG—No mileage shown, disqual.
VK6ZAA—Mt. Pleasant 1624 pts.
6ZDS—South Perth 1395
6MM—Nedlands 841
6ZAL—Bunbury 420
6ZCD—Albany 365
VK7ZAX—Lenah Valley 1955
7ZAV—New Norfolk 546
7ZAC—Hobart 112
7ZAX—Lenah Valley 110
7MY—Check Log
VK9AU—Port Moresby 502
ZL1AKY—Papakura 1010
JA1CYV—Tokyo 20

Section C

WIA-L2242—D. J. Patterson, Sydney 3104 pts.
WIA-L2211—R. C. Abernethy, Sydney 1479
WIA-L3076—R. H. Young, Brighton 1109
WIA-L3065—I. D. Thomas, North Clayton 1032
WIA-L3055—M. R. Cox, West Heidelberg 601
WIA-L4028—T. A. Lane, Brisbane 2248
VK5—Miss J. Martin, Wild Horse Plains 12

Book Review

RADIO AMATEUR'S HANDBOOK (A.R.E.L.)

The fortieth edition of this long accepted standard manual of Amateur practice closely follows the layout of previous issues. The new style typeface introduced in the previous issue has been retained. If anything, the photographs are even better in this new issue.

As usual, the constructional articles are the best from "QST". New material is mainly on linear amplifiers. There is additional material on 432 Mc. equipment, which, with the release of this band to Australian Amateurs in the near future, will be of special interest to those whose main interest is in the v.h.f. regions.

This reviewer has always found much of interest in the catalogue section, and this edition is again most interesting. One noticeable feature is the tendency towards higher prices for some equipment advertised.

The book contains twenty-five chapters and is well indexed, facilitating rapid location of any matter required, from basic theory upwards.

It is impossible to find words to describe this manual that have not been used before. We can only suggest you have a copy on your bookshelf.

Our copies from McGill's, 183 Elizabeth St., Melbourne, and Technical Book Co. Pty. Ltd., 295 Swanston St., Melbourne. Price 5/6 plus 2/6 postage.

VK9LA—COCOS ISLAND

VK9LA is operated on Cocos Island by Lionel Allen, a radio technician employed by Dept. of Civil Aviation, who now has every reason to believe he is operating one of the world's rarest DX stations. He is the only active licensed Amateur on the island (despite what appears to the contrary from time to time). (VK9RC is also on the island, but at the end of April was inactive.)

The equipment in use at VK9LA consists of an HT37 tx (acquired Dec. 1962), Drake 2A rx, TH4 triband beam antenna.

Operation is confined to 14 and 21 Mc.—mostly 14 c.w. and phone. VK9LA averages approx. 10 contacts per day and is active most days. Strange to say, Lionel states that he hears very few VK signals and makes the unusual plea for VK stations to listen for him (from 1200 G.M.T.) and give him a call whenever heard. (He would especially like his first QSO with VK1 which he says "would be DX for me".)

VK9LA will be on Cocos until late December 1963, after which he will return to VK6. (The Allen XYL and children are on the island with Lionel—their eldest son is at high school level in his education and studies by correspondence—not so hot says the OM!)

All contacts and s.w.l. reports on his signals are QSL'd 100 per cent. Cards for VK9LA can be sent direct to him at P.O. Box 5, Cocos (Keeling) Islands or via the VK6 (W.I.A.) Bureau.

Amateurs everywhere owe a debt of gratitude to Lionel Allen for his daily efforts to keep Cocos Island on the Amateur Radio map via VK9LA.

—BRS193/WIA-L3042.

I.A. FEDERAL PRESIDENT'S ANNUAL REPORT, 1962-63

It is my privilege to present my report on the activities of the Wireless Institute of Australia in particular, and of the Amateur Service in general, over the last twelve months. This has been one of re-orientation rather than of any great achievement—the last Convention in Perth in August 1962 produced a new line of thinking about the time approach, under which we must have a more realistic Federal Constitution so that the future growth of the Institute may develop along sound and logical lines. The two drafts presented at the Convention indicated two ways of achieving our objective—there are probably others also—and means of handling the discussion ways and means of handling the problem which has led them to the conclusion that a special committee must be set up to discuss the matter legally and in greater detail. This proposal will no doubt receive your attention later in this Convention. Unfortunately, due to circumstances beyond our control, Councillors did not receive the minutes of the Perth Convention until late in the year, and consequently your Executive has not completed all action required in the time available. I trust that this will not occur in the future and every endeavour will be made to see that action by all parties is completed between Conventions.

Touching on administrative matters, the Secretary continues to deal with large volumes of correspondence and enquiries, and I am sure but I cannot help but remark that Federal Councillors may ease his burden by a more careful use of the Constitution and Policy Book. Two-thirds of the time of Executive is taken up with correspondence and queries, a large proportion of which may be matters dealing with laid-down policy. This administrative burden can be cut down it will leave Executive more time to deal with outstanding correspondence and other matters of importance for the furtherance of the Institute as a whole. Your co-operation in this regard would be of great benefit to the concerned.

I am very pleased to announce that the long and constructive work of the Vice-President, Mr. Max Hull, was rewarded earlier in the year by the bestowal of Life Membership by the Institution. I am sure that Mr. Hull has deserved for his long association with the Executive and his terms as the Federal President. I am sure that George Glover, who has been handled with that tact and judgment one has come to expect from him. I also thank him for the support he has given me in the last year. I know perhaps more than anyone just how valuable that has been. I cannot let this opportunity pass without also expressing my thanks to George Glover, the Vice-President, who, although not an official member of the Executive, has continued to support the Executive and provide it with his almost infallible memory for past events and his experience also gained from long service in Institute affairs.

Membership of the Institute has continued to grow although I feel there is room for a great deal of improvement in this field. It is a very real task to get more people into the I.T.U. Conference, which may be only a year or two away, the Institute should be representing the bulk of Australian licensees. At the present this is little more than a percentage figure which can be improved with concerted efforts by Divisions. A comparison of the membership figures for the last two Conventions, compared with present figures, are of interest:

	1957	1959	1963	1963
	M.	M.	M.	M.
VK2	785 1158	1057 1249	1243 1377	1263 1427
VK3	728 1089	748 1231	735 1342	766 1302
VK4	155 362	290 410	289 449	395 480
VK5	297 445	472 619	472 619	540 640
VK6	113 217	141 241	197 297	216 317
VK7	151 122	148 130	174 156	174 164
VK8	25 62	34 38		
Tot.	2336 3407	2667 3622	3110 4141	3355 4314

The membership figures above cover all grades of membership and not just licensed members, so that it can readily be seen that we must do something in the way of membership drives if we are to increase our membership. The means of doing this is a policy matter, but one for the Divisions to actively pursue in their own interests. It should be noted that the technician licensees have continued to follow the trend growth indicated at the last Convention and they still out-number the A.O.C.P. holders in current exam results. We must make every effort to pursue a policy of encouraging them to take a full license.

I expect that since the inauguration of the High School Radio Club scheme in N.S.W. this year and just starting to make strides in other Divisions, our overall membership will benefit. As well as providing a most useful service to the community at large, Every effort should be made to make this an Australia-wide scheme and the Division who have just commenced activities in this sphere should start as soon as possible. I have not yet heard any results of our appeal in "Amateur Radio" for donations to the Divisions of gear for these Clubs, but hope that every Amateur will respond, so that those actively running the Clubs will have your support in a practical way.

The Executive have had two major meetings with the P.M.G.'s Department this year—the first to discuss and modernise the regulations for Amateur Stations and the other to discuss matters arising from the last Convention. In relation to the first meeting, the results are already evidenced in the new addition of the Handbook is on the Bookellers' shelves. In most respects, any alterations suggested by the Executive were accepted and included, and I consider the present edition is a big improvement over the earlier one. There are still a few contentious points which are still to be tackled, but these will be progressively corrected as necessary. Regarding the second major meeting, it is too early to say whether our propositions will be accepted, but you may rest assured that every effort has been made to present a case in the most complete manner.

During the year we have maintained liaison with the A.R.R.L., the N.Z.A.R.T. and the R.S.G.B. We have negotiated a sale of Handbook with the R.S.G.B. and Divisions will most likely have been asked to pay for their requirements. They will be available at a cheaper rate than possible through the usual bookellers and will enable a small profit to go into Federal funds. Through overseas visits of some of our Council members, the M.A.R.T.S. and the R.S.G.B. I am sure our ambassadors in each case have been able to at least keep these Societies informed of some of our activities. All members of the Institute will be interested to hear that the R.S.P. of the U.S.S.R. has been accepted as a member society of the I.A.R.U. This membership may well result in a better understanding of affairs behind the Iron Curtain in Amateur doings, and be the means of lifting some of the bans that still exist.

The production of "Amateur Radio" and the "Call Book" has continued under the capable leadership of the Editor, Mr. Kel McKinnon, and the standard of both has been maintained despite the continued upward spiral of costs. The "Call Book" was a little later than usual this year but this was due to a complete census by the P.M.G. of all licensees, resulting in more correct listing of all Amateurs in Australia and its Territories. There will always be some mistakes, but I hope the Editor can correct any errors if the individual concerned will put pen to paper. The Publication Committee has been very busy carrying on a very onerous task in such an efficient and expert manner. The Editor and some of his committee have attended some Executive meetings during the year and the Editor has resulted in a better understanding of each others problems. I am sure that the Victorian Council will have a more detailed report to make during the Convention, especially in

relation to the financial state of both publications.

The Federal station of the Institute, VK3WIA, has received some attention during the year and has been most useful in the way that official broadcasts may soon be possible. I must thank Mr. Harry Kinneer, a Past Vice-President who donated a new 100Watts Hammar receiver for Federal use. Plans are now being made for an operating schedule for VK3WIA so that Divisions and individual members may keep themselves informed on matters of Federal nature.

During the year, Mr. Tom Straghaire, who has been responsible for all work connected with the production of new certificates for various purposes, was appointed as the Contest Co-ordinator. His task has been to ensure that all certificates owing and outstanding to local and overseas Amateurs from W.I.A. Contests have been issued, and I am happy to report that the task is completed. I will retain this job and I am sure there will be no complaints in the future about competitors in Contests not receiving their certificates in a short time after publication of the results.

Appropos the subject of Contests, the N.Z. A.R.T., because of the time factor, extended this year's VK/ZL Contest to include all Divisions. The decision was made at the last Convention, but a decision had not been reached by Council so that the N.Z.A.R.T. did not advise us until after the rules had been published. I have not yet heard whether the change of rules was a success or not. The conduct of Contest affairs has this year been taken over by the Queensland Division for a period of three years, and I am sure they will very soon give the service their predecessors have in the past.

The issue of awards by Mr. Kinneer has been dealt with in his usual prompt way and judging by the number signed this year, there has been no falling off in applicants. The QSL Office, Mr. Ray Jones, has carried out his job with expedition and economy. His task has been made a bit easier by arranging a special Club for the other members of the Institute. This has also meant a bit more room in Box 2611W!

During the year, the Institute was invited by the P.M.G. to nominate a representative to sit on the Federal Communications Committee set up to examine problems associated therewith in relation to other users of the frequency bands. Mr. Arthur Tinkler represented the W.I.A. on this Committee, and several meetings have been held to discuss the various problems. This is a preparatory committee to make recommendations on behalf of Australia at an international meeting to be held in Geneva later this year. It is probable that further meetings will be held prior to the official representative from Australia departing overseas, and it is this committee which will determine his brief. I have every confidence in Mr. Tinkler's ability to properly represent the Institute's interests which he has amply demonstrated in the past on the R.F.S.R.C.

Arising out of the last Convention, it was decided that a sub-committee consisting of a member of Executive and the VK2 and VK3 Federal Council members visit the Canberra Radio Society to discuss the formation of a Division. Advice was received from the Society that they did not have the room or idea at the present time, so it was not

(Continued next page)

WIRELESS INSTITUTE OF AUSTRALIA—FEDERAL EXECUTIVE

Balance Sheet as at 28th February, 1963

Current Liabilities—		Current Assets—	
Accounts payable	£33 11 1	Cash on hand	£21 0 0
Convention Fund	4 19 4	Commonwealth Savings	
Trust Fund	204 18 0	Bank	1057 17 11
I.T.U. Fund	424 10 8	Accounts receivable	4 0 0
	£678 1 8	Stock on hand	211 15 10
Accumulated Funds—		Fixed Assets (at cost, less depreciation)	£1294 13 9
Balance	£870 18 1	Furniture and Fittings	£15 9 10
Less excess of Expenditure over Income for year	9 3	Typewriter (No. 2)	19 12 0
	£870 8 10	Duplicator	117 9 0
		Trophies	16 18 0
		Equipment, VK3WIA	72 0
	£1548 19 7		253 16 10
			£1548 10 7

YOUTH RADIO CLUBS

W.I.A. PRESIDENT'S REPORT

(Continued from page 14)

What a wonderful story to hand this month from Port Pirie! (N.B. It's just a geographical coincidence it happens to be in VK3.) A letter comes from Bert 5EQ, President of Port Pirie Amateur Radio Club, "Following the re-formation of our club towards the end of 1962, a public meeting was held to estimate the degree of interest in the town in the formation of a Y.R.C. The local newspaper provided publicity in advance and the headmaster of the high school gave the scheme plenty of promotion within the school. The final result was the formation of a Y.R.C. with no restriction (for age) on membership. Prior to the first meeting, on March 8, the headmasters of all the schools were approached and supplied with details of the Y.R.C. scheme. In every case we received the active support of these people. Local press also came to our help with quite an extensive coverage, and as a result we enrolled 59 members at our first meeting (later increased to 62).

"A major difficulty at this stage was the provision of suitable accommodation, since the P.P. Amateur Radio Club itself had no regular meeting place. However, an appeal to the City Council for assistance was successful and we were granted the use of the radio room at the local airport. This airport was formerly a R.A.A.F. station but now carries no radio equipment. This room has been made available to us for £1 per year. Appeals in the local papers and over one of the local radio stations brought some tables and chairs, and a supply of old radios for wrecking.

"At present, meetings are held once a fortnight, in the P.P.A.R.C. only has about a dozen members and due to business and other reasons, not all of these can devote regular time to these classes. Each session is split into sections to hold the interest of younger members. A short lecture on basic theory is followed by a Morse lesson, and then the remainder of the evening is devoted to practical projects."

In addition, Bert sends me a circular issued to parents. This has many sensible points—non-profit operation, free issue of cards but a register kept, privileges for members making best progress, small membership fee, regular statement on finances, strict supervision and safety measures, parents invited to visit, etc. This is a fine story with a moral for all similar centres. Heartiest congratulations to the members of P.P.A.R.C., the City Council, the schools, and all concerned! The moral? Amongst others, please note one special one—if you can't manage a Y.R.C. yourself, form a group.

Further good news from VK4 and VK6. VK6PH has accepted the job of Y.R.C. Co-ordinator in W.A. and Stan AS4 has been appointed in Queensland. Congratulations on your fine spirit, fellows, and I hope your Division backs you up as well as appointing

you. Awkward question—if you count 1, 2, 3, 4, 6, what number is missing?

Further news from VK3 is very encouraging—49 Y.R. Clubs registered! Sorry to hear that the VK3 Co-ordinator, Ken 3TL, has not been in good health, but that would cheer you up, Ken. Ken has had a very encouraging letter from the Victorian Education Department. Which State is going to be first to have Summer Schools on Y.R.C. for Science Teachers? An SOS. Brother Colin at St. Francis' College at Leeton hopes to develop a transmitting club at his College, which would cheer your school. Any Amateurs in the area who can help are asked to contact Brother Colin.

Further reference to Scouts. Negotiations are in hand with the N.S.W. Branch of the Boy Scouts' Association to develop a scheme whereby Scouts who gain W.I.A. Certificates are to be entitled to Scout Proficiency Badges, e.g. Elementary Certificate of the Y.R.C. scheme might be a qualification for Wireman's Badge; Intermediate Certificate might entitle a Senior Scout to a Radio Mechanic's Badge. What about pushing this scheme in your State?

Club leaders please note, Doug Williamson, of Bass Hill High School (Sydney) is in charge of Elementary Certificate training and testing; Keith 2AKX, of Booragui High School, Booragui N.S.W., looks after Junior Certificate; and Ralph 2ZRS, of Homebush High School, Sydney, is the man for Intermediate.

Another SOS to Broken Hill: Frank 2ACQ visited Broken Hill and contacted local Scout authorities. Mr. Ben Hall, of local station 2NB, has agreed to assist in formation of a Scout Radio Club. Can Amateurs and Associates in Broken Hill do the right thing with help, instruction, and administration? Is Port Pirie to tan the hide off Broken Hill?

Random jottings (most VK's included) but I'm hoping for a better spread soon: First Auburn Senior Scout Radio Club should be on the air before long. Jim 2AMQ is instructor and has donated a f.w. rx. Rex 2VA has made available a tx to this, his old troop—Rex says 1967, if you inquisitive types want to know! But more help is still needed from many Amateurs in Auburn. Mr. Makewell, of Revsby, has donated a quantity of gear including two intercom amplifiers which are to become Morse practice oscillators at the hands of Joe 2JRC. Can anybody else help with construction (just a little). I'm snowed under, myself, and would appreciate it greatly.

Final note from VK1LS at Lynnham High. The s.a.s. phasing tx of George IGB, of our 60 club, is still needed for one or two contacts. One was with 2 watts of good s.a.b. and the other with a problematical 20 watts. Further alignment proceeds, but George is happy.

Our monthly message again. If you can't manage a Y.R.C. alone, form a group. 73, Ken 1KDM.

necessary for the sub-committee to travel to Canberra. However, I took the opportunity during a business visit to meet the members of the Society and discuss any problems with the activities as reported from the divisions which followed that it was not possible at present to form a Division. However, many other matters of interest to the Society were discussed and the assurance given that my visit was well worth while. I hope during the next twelve months to be able to spend more time with other divisions and discuss any of their problems in person.

Mr. Dave Rankin has continued to deal with the activities in v.h.f. records and, since the publication of his article in "Amateur Radio," has received a further influx of applications for v.h.f. records which are now being checked. Openings in the two lowest v.h.f. bands appear to have been more consistent this year and activity is on the increase. Many good contacts have been made with overseas stations and the increase in operation leads one to suppose that these bands will soon become as popular as the higher HF bands.

Regarding the financial state of the Executive, I refer you to the Balance Sheet for the year which shows a clear surplus. The expenses for the operation of the QSL Bureau have doubled due to the increase in postage and the cost of the new year's Remembrance Day Certificate has resulted in a slight deficit for the year. As there are still several other certificates to be printed in the new year, the deficit is expected to be likely to be much higher unless additional income is forthcoming. I particularly wish to draw your attention to the fact that, although no doubt this will be referred to during the year, but despite the foregoing, our financial position for 1967 still reveal a healthy state of Federal finances.

This year Executive was composed of some older members plus the advent of two new members, Mr. Alf Seemman and Mr. Ian Macmillan, both of whom have now settled into the Executive sphere and are assisting in the work and deliberation and they will continue to supplement the knowledge and experience of the older members, as well as injecting new opinions into the discussions. This year the Executive has met a total of 13 meetings and the attendances were as follows: W. Mitchell 13, M. Hull 13, J. Lancaster 12, D. K. Jones 12, J. D. Rogers 12, M. 8, I. Macmillan 8, G. Glover 13 (co-opted), T. Straughair 7 (co-opted), R. Boase 8 (co-opted).

It is only fair to say that Mr. Tinkler has been away interstate and overseas for a considerable part of the year and has been unable to attend. I wish to thank all Federal Councillors of the past year, some of whom have not been re-elected, for their support and attendance to Federal matters on behalf of their Divisions. I do feel that Divisions would be wise to give urgent consideration to the appointment or re-election of Federal Councillors for a period greater than twelve months. It is very difficult for a new Councillor to pick up his duties and become acquainted with Federal affairs in a short time, especially if he is appointed for a period of twelve months before a new man is appointed. To all officers not mentioned by name, I extend my thanks for the job well done. I hope they will all continue to serve the Institute in the future as sincerely as they have done in the past. This year has not produced anything startling in the way of privileges or concessions, but it has been a year of organization, of re-building for the future. I trust the foundations laid this year in the various Amateur fields will lead to a constructive year ahead for those now charged with continuing the Amateur administration through the Institute. My own efforts will not be spared to promote the growth of the fine edifice we eventually hope to erect.

S. S. Mitchell, Federal President.

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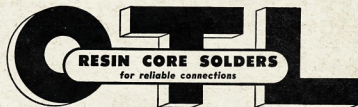
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14 Esther Court, Fawkner, N.15, Victoria

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

H.F.

I hope you will excuse the patchy effort in preparing these notes for the first few months, transitional difficulties will soon be overcome and you will settle down once again. Please keep the notes coming in each month and remember these notes are the only source we have of recording our own v.h.f. efforts.

We would appreciate any suggestions or ideas anyone has for improving this page and I would particularly welcome letters from listeners in each State. They can provide a worthwhile contribution to our own efforts.

How many have heard the excellent tape of Ed Tilton, W9RDCQ, on v.h.f.? I believe there are several copies around so you might have heard it. If anyone would like a copy drop me a line and I will let you know how you can obtain a copy.

On this subject I feel sure that a similar effort could be made on examples of v.h.f. DX here in V.K. There are many types of DX amongst us Amateurs so I am appealing to those who have any for their assistance in this project. If you have any recordings of DX on 5, 2 or others, and would be prepared to loan same or arrange for copies to be made, I would like to hear from you. Please write me the name of the DX and the time of the copy you have and I will let you know what we have in mind. Hope to hear from you soon, T3, 5ZGP.

NEW SOUTH WALES

At the annual meeting of the V.H.F. Group last month, the new committee was elected, comprising a fair sprinkling of old salts, the list running as follows: Bob 20A, Chairman; Dave 2AWZ, Secretary/Treasurer; Ken 2KX, Vice-Chairman, followed by John 2ZAV, Paul 2ZPJ and Terry 2ZBL. Official duties were delegated on the following Monday night at the first committee meeting held at Bob's home. The meeting concluding with a sumptuous stomach stretching supper served by Bob's YF. Paul and John form the new contest committee, Horrie is country liaison officer, Dave has enough to worry about, Bob is liaison officer to Council, and yours truly to chronicle notes and technical officer (I think that means I make the cups of tea!).

A long distance fox hunt will be held on 16th June to be started by Bob 2ASZ, and in July, the all-v.h.f. band scramble, will be held on 15th and 14th of that month. So keep these dates close.

A series of excellent lectures are on the way, that on 3rd May was a beauty from John 2ZAV on generating an audio beat tv signal. This will be followed in the months to come with a series on mobile equipment, how, why, and etc.

Six metre s.s.b. is still being knocked into shape with pretty consistent activity from Keith 2ZVL, Roger 2ZRH and Terry 2ZBL—all running on the air, and powers up one watt p.e.p. Any operators needing a hand with circuits or tune up QSOs are invited to contact any of the above. Also Dan 2ZVW is reported to have s.s.b. operating on 23 Mc. using a McCoy filter, all ready to heterodyne to 2 mhz.

Dick 2ZCF and Bill 2ZAC are running regularly on 23 Mc. and Ken 2ZBL is making the big break through came by using a passive reflector on top of the mast at Bill's end and using the 100 watt 10 per Long Tom from the ground level, cutting out a lot of loss on coax. The 146 Mc. net is gaining a lot of recruits and the frequency is 136.9 Mc. The net is now being brought into line with VK3 on their second channel, and now that 30w. output bands are just about ready to go on the air, and powers up one watt p.e.p. any operators needing a hand with circuits or tune up QSOs are invited to contact any of the above. Also Dan 2ZVW is reported to have s.s.b. operating on 23 Mc. using a McCoy filter, all ready to heterodyne to 2 mhz.

Dick 2ZCF and Bill 2ZAC are running regularly on 23 Mc. and Ken 2ZBL is making the big break through came by using a passive reflector on top of the mast at Bill's end and using the 100 watt 10 per Long Tom from the ground level, cutting out a lot of loss on coax. The 146 Mc. net is gaining a lot of recruits and the frequency is 136.9 Mc. The net is now being brought into line with VK3 on their second channel, and now that 30w. output bands are just about ready to go on the air, and powers up one watt p.e.p. any operators needing a hand with circuits or tune up QSOs are invited to contact any of the above. Also Dan 2ZVW is reported to have s.s.b. operating on 23 Mc. using a McCoy filter, all ready to heterodyne to 2 mhz.

SOUTH AUSTRALIA

50 Mc.: One opening only of any note in April. This was on 17th, when VK4s were worked by most of the locals. One of the more interesting aspects of this opening was the news that Dave 42AX is considering modifying some of his tx transmitters. Also of interest was the rumor that during the opening, Ken 42ZV was heard by JA. However, whilst the Korean f.m. station, HLKA, was heard by 5ZBR and others, no JAs were worked in Adelaide.

Mobile activity is high in VK5. New chunks include Bart 6GZ and Bob 5ZDX, this last mentioned putting out a terrific signal. Doug 6KX/5 had also been mobile recently as has your conductor (33w. to 815).

144 Mc.: This band has been less active recently. Dave 5AW and Mick 5ZDR seem to be the only infrequent and infrequent from overseas on Oscar 3 seems scant.

An s.s.b. wallah of great note, Shep 5DC, has been heard on 2 mhz recently trying out a Gonset Communicator and Rod 5ZAA has his new QQQ640 tx on 2 mhz and this is working quite nicely.

General News: Doug 8KK, our V.h.f. Group President, has returned to Adelaide and will take over the weekly broadcast from Brian 5ZBR, who has been doing it for the past three months.

On 27th a fox hunt was held in Adelaide. Alf 5LA was fox and bounds included 5ZBR, 5ZGF, 5ZDX and your conductor. Whether it was all we could ask i.e. raining cats and dogs all the evening, and three interesting hunts were had. Alf 5LA had some quite good locations picked out.



Garry Herden, VK5ZK, with his portable station at Goolwa, South Australia. Garry was very active at Xmas time on all bands, including 2 mhz, and was heard on 23 mhz. He is regularly from this QTH at various holiday periods and last Xmas made some fine contacts on 2 metres to VK4.

As we will soon lose the 288 Mc. band, there has been much H.L.A. interest. Ken recently in 429 Mc. Barry 5BQ and Cor 5ZKC have a joint programme in hand, one aspect of which involves the description of a 500 Mc. d.c. in "A.R." This article will be awaited with interest.

Alf 5LA has a 6/40 tripler on the way, as does Col 890 (although he may not realise it yet). Your conductor has built a 16 db. yagi and has a 417A through line converter well in hand. It will be fun to see how many of these chaps can contain themselves until January 1964.

Mick 5ZDR has a 2 mhz mobile on the way. 5ZEV/T and 5AO/T communicate regularly on 288 Mc. with tv. signal of high quality. Mick (in one case) intercarrier sound. Roy 5ZOM/5 has been working the locals on 80 Mc. whilst holidaying in our fair State, T3, 5ZCR.

WESTERN AUSTRALIA

This year April has been a month of good mobile weather. Many of the Group has taken advantage of it get out and go places. Most week-ends at least three or four mobiles were heard from near and far. With Easter, and Anzac Day, being able to be mobile into four day week-ends some of the Group have toured the QTHs of country Amateurs, strengthening, encouraging, and kindling interest in v.h.f. activities. Dave 6ZD and Ken 6ZPV went to the South West over Easter and a group led by Doug 6ZDW went north to Carnarvon over the Anzac Day week-end. Les 5LF at Carnar-

van and the Geraldton boys, who are spurred on by Brian 6VV, were the targets the mobiles were in view.

On a subject of mobiles, the local tv channel 7 is well represented by its staff. Kevin 6ZCB, Phil 6ZAW and Bert 6ZBF can be heard regularly working each other and home bound Perth stations, on their way to and from duty at the tx's. Bob 6ZCY is the latest addition to this gang. Cedric 6CD (ex 5ZBC) is the only v.h.f. mobile known of working at channel 7 studios. Max 6MM had some of his mobile equipment at the last meeting. He has a very neat combination, tx mod. and power supply built into a unit approx. 13 x 8 x 6 inches. It only needs 12 volts, a mike and an aerial plugged into it. His 50 Mc. converter is fully transistORIZED and at approx. 5 x 1 x 1 inch in size. Some very nice gear, Max, and by the close inspection these units received, I think you had better get a couple of padlocks as almost all of us would like that gear in our cars.

The April meeting was well attended and enjoyed by all. Roy 6RV reported on the fox hunt run by Tony 6ZDT with Doug 6ZDW and Ken 6ZBT on a time basis. Barry 6ZCF and Max 6ZBK are cooking up the scheme for next month. V.I. Davies gave an informative lecture on radiation and its detection and answered the barrage of questions fired at him by the members.

The local beacons have been shifted to a location where they will have the maximum operating time. Bill 6RX and his XYL (6YVL) have permitted them to be installed at the QTH. Trial runs have indicated a good coverage by both 50 and 144 Mc. beacons. In consideration of Bill's move to the Goolwa and Aline, who although not attached to the Group, but in the interest of Amateur Radio as a whole, it was decided unanimously to elect them honorary members to the V.H.F. Group. A 420 Mc. beacon is being planned in readiness of our allocation for next year. It will be a total loaded and have a QQQ530 tripler as the final.

With the advent of channel 0 in the East and the shift to 52-54 Mc. eminent, don't forget to get the gear ready for the new frequencies. With winter almost upon us now is the time to get those beams, converters, and tx's peaked up as when the DX comes again it will be too late. T3, Alyn.

PAPUA

50 Mc.: April was a disappointing month in VK3. This was the first April since 1958 in which no JAs were worked, or even heard, from Port Moresby. KH6s, which have also been either worked or heard during April over the last few years, were also absent. On one day, 27th, was a weak carrier heard bearing E.N. on 50.12 Mc., intermittently, from 2200-2945 hrs. This may have been back scatter from VK or possibly coming in on the E.N.E. beam heading 49.8 Mc. ionospheric scatter. The Pacific Islands network were heard on 16 nights during the month at strength ranging up to well over 58.

The main news of the month concerns skeds transmitted by 8AU and 9AS West, New Guinea, at 1900 hrs. each night. 8AS (Jim) on 50.34 Mc. was heard on six occasions and contact made on two nights. Maximum signals were S4 and the propagation over the 400-mile path was by ionospheric scatter. Tests are continuing each night at the same time.

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144 Mc.: 8ZBV and 8AU were again active on this band with 8ZBV operating mobile. Tests here have only been made over a path of about six miles. No signals have been made at a later date. Skeds with 4KT in Townsville have resumed but nothing heard as yet. No signals have been heard in Port Moresby during the month. T3, 9AU.

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FEDERAL

F.E. MEETING

Present at meeting held on 8th May, 1963, were: JUM, ZXS, ZJL, 3QV, 3AG, 3NI, 3CS, 3ZY, and GLE.

Correspondence from—

1. P.M.G. details of A.A. Committees for 1963.
2. Fed. Treas. re vote of thanks to members assisting with re-establishment of VK3WIA.
3. Rex Black, re Y.R.C. and other matters.
4. Rex Black, re copy of letter to VK2 Fed. Councillor re Y.R.C.
5. Pub. Com. re foreword for Call Book.
6. Awards Manager, N.Z.A.R.T.; comment on 1962 VK7ZL.
7. VK3DU to contact with overseas societies.
8. E. Ferguson, re R.T.T.Y. frequencies.
9. Scouts World Bureau, re 1963 Jamboree of the Air.
10. Membership return and circulation list, VK7. Bulletins: Feb. I.G.Y., Jan. I.C.D.O., Apr. VK4, Apr. VK6, May VK7.

Business arising: (2) Resolved that details and acknowledgment be published in A.R. (5) Aspects of the production of the Call Book were discussed. (6) Resolved that samples of certificates and badges be made available to Mr. Bowrie. The other matters were set aside for routine action by the Secretary.

Treasurer's Report: The report was received, but adoption deferred pending clarification of certain points. The Treasurer having had to leave before the report was presented.

Convention Report: In a brief resume, JUM stated that three major matters emerged in the course of the Convention and upon which progress was made. These were:

1. A sound basis for a new Federal Constitution. A total of nine basic points were discussed. The other matters were subject of motions, it being decided that a Federal Company seemed to be the best basis to work on.
2. A sound basis for the Youth Radio Clubs scheme was achieved, and much detail discussed.
3. I.T.U. representation—a basis of financing, involving individual Divisions, and other details, a target sum of £3,500 being suggested.

General Business: The main business was the election of office-bearers for 1963-4. Results were as follows: President, Major W. S. Mitchell, VK3UIM; Vice-President, Mr. C. L. Hull, VK3ZS; Treasurer, Mr. R. Boase, VK3XN; Secretary, Mr. J. Lancaster, VK3JL; Communications Manager, Mr. A. Seedman, VK3JRT; Activities Manager, Mr. D. Rann, VK3QV; Communications Manager, Mr. I. Macmillan, VK3CS.

Co-opted members were appointed as follows: Historian, Mr. G. Glover, VK3AG; Government Liaison, Mr. A. Tinkler, VK3ZV; Co-ordination Manager, Mr. T. Straughair, VK3ABV; Fed. Awards Manager, Mr. A. Kinsick, VK3KB; Fed. QSL Manager, Mr. R. Jones, VK3JR; Fed. Y.R.C. Co-ordinator, Mr. R. Black, VK3J. Fed. Contest Committee, to be elected.

Other matters discussed included a modification to the W.A.V.K.A. award, effective Jan. 1964, and another matter involving a service to members.

INFORMATION OF INTEREST FROM F.E.

An informal meeting was recently held with the F.M.G. Department to discuss various matters including c.w. for Z calls, v.h.f. bands, delays in licence issuance, Amateur Advisory Committee, I.V. allocation, etc. of Handbook for A.R.O. as part of Call Book, suffixes for different islands, etc., under VK9-VK10, reciprocal licensing, 28 Mc. for Z calls, etc. Limit for re-examinations for A.O.C.P. Details and results will be available when the exchanges are formalised.

HERE AND THERE

The sixth Jamboree of the Air will take place on 19th and 20th October between 0001 hours G.M.T. and 0001 G.M.T. to 0001 G.M.T. on 20th October. More details will be published at a later date.

Members are reminded that any "Federal Grips" can receive attention via your Federal Councillor, or you hate it, write to the Secretary, C/o. Box 3611W, G.P.O., Melbourne.

Do you understand the organisation of the W.I.A.? We are going to print an article on this subject, for those who are interested.

VK3WIA is back in business, and it is hoped that regular schedules of operation will soon be established.

VOTE OF THANKS

Federal Executive wishes to thank the following for their generous assistance in the re-establishment of VK3WIA:

Doug VK3DU for a modulation transformer and much hard work; Ken 3CW for an 813; Max ZGS, for a mast and hard work; and to Arthur Tinkler for the gift of a mast. Most particularly, F.E. wishes to thank Mr. Harry Kinnear for his most generous gift of a Hammarlund receiver, in respect of which it has been resolved to add a suitably inscribed plate to the unit, acknowledging the gift.

AMATEUR ADVISORY COMMITTEES

The following are the details of Amateur Advisory Committees forwarded by the P.M.G. Department:—

New South Wales: W. L. Woolnough, VK3GW; L. E. Taylor, VK3CL; N. MacNaughton, VK3ZJ; G. G. Hall, VK3ZAGH; B. H. Anderson, VK3JAD; Dr. L. McMahon, VK3KAC.

Victoria: R. A. C. Anderson, VK3WY; P. F. O'Dwyer, VK3YR; A. L. Storck, VK3ZO; R. J. Richardson, VK3ZP.

Queensland: K. D. M. Grice, VK4DG; C. E. Cogwell, VK4CI; P. H. Brown, VK4PJ; S. R. Saxter, VK4AF; C. I. Patterson, VK4YP; R. A. Collins, VK4XK.

South Australia: J. C. Haseldine, VK3JC; R. G. Roper, VK3PU; W. D. Randall, VK3VB; H. K. Stacey, VK3A; W. D. Verrall, VK3WV; E. J. Haynes, VK3ZB.

Western Australia: R. Chamberlain, VK6RY; E. J. Rumble, VK6RU; M. J. McDonald, VK6MM; V. J. Kinney, VK6KV; A. Parkes, VK6XO; P. Haynes, VK6JL.

Tasmania: W. N. M. Nisbet, VK7BN; I. Nichols, VK7ZZ; P. Grieves, VK7GV; C. Spielal, VK7KS; E. Beard, VK7EB; T. Allen, VK7AL.

Etc. etc. etc.

FEDERAL AWARDS

W.A.V.K.A. AWARD

It has been decided that as from 1/1/64, VK1 will count as a separate call area, from which one QSL will be required. Three QSLs will still be required from VK2 as previously. A complete reprint of the amended rules will be published at an early date.

D.S.C.C.

The following amendments are applicable to the Countries List published in "A.R." January 1963:—

AP2—Pakistan should be AP—East Pakistan.
ET2—Eritrea. As from 15/11/62 Eritrea is deleted as a separate listing and thereafter is combined with Ethiopia.

FR7—Juan de Nova, situated in the Mozambique Channel, is a new and separate listing.

FR7—Glorioso Is., situated north of Malagasy Republic, is a new and separate listing.
GO—Channel Is. The single listing of these islands in now divided into Jersey Is. as one listing, and Guernsey Is. and Dependencies (Alderney, Brechou, Great Sark, Little Sark, Herm, Jethou and Lihou) as a separate listing. Credits already given for Channel Is. will be transferred to the appropriate new listing.

SILENT KEY

It is with deep regret that we record the passing of:—

VK2FZ (ex VKOZF)—F. M. Stean.

VK7JP—Ted Evans.

J20, FK1-3, 4, 5, 6. As from 1/5/63 the five separate listings of Borneo, New Guinea, Java, Sumatra, Neth. Borneo and Celebes and Moluccas will be deleted.

PK—Indonesia. As from 1/5/63 this new listing will embrace the entire territory of Indonesia.

VQ5—Uganda. New prefix is 5X3.
ZD1—Sierra Leone. New prefix is 9L1.
ZM6—Samoa. New prefix is 5W1.

V.H.F. AWARDS

V.h.f. awards have recently been issued as follows:—

V.H.F.C.C.:
No. 22—Jim Forse, VK3JHF, 50 Mc.
No. 24—Len Poynter, VK3ZGP, 50 Mc.

W.A.S. 50 Mc.:
No. 39—David Rankin, VK3QV.
No. 40—Peter Milne, VK3ZGV.
No. 41—David Slidey, VK3ME.

A. Kinsick, VK3KB, Awards Officer.

NEW SOUTH WALES

The general monthly meeting was held on Friday, 26th April, at Wireless Institute Centre, Crows Nest. The attendance was good and general business was kept to a minimum to enable the guest speaker, Mr. Joe Reed, VK-2JH, to deliver a most interesting and possibly somewhat controversial lecture on the advantages of vertically-polarised antenna systems. To help emphasise the startling facts surrounding the angle of radiation aspect of propagation, Joe Reed gave a series of carefully prepared slides. He touched on the subject of the merits of loading various types of radiators, with emphasis on positioning of loading devices, etc. This most interesting lecture, as expected, developed into a general discussion, there being quite a number of very important questions and answers.

Well, Easter has come and gone, and with it the much-awaited Federal Convention. This most important Federal gathering was conducted in Sydney in a very smooth and generally congenial atmosphere. Our only regret was that sufficient time was not available to show our guests more of the highlights of Sydney and surrounding areas.

Coinciding with the Federal Convention, the very popular Urug Convention was held in the north coast. Harold 2AAH and Max 2MP represented Council at this gathering, and from their remarks they certainly enjoyed themselves both on the official as well as the social side. As usual, a thoroughly commendable and enjoyable holiday week-end at Turramurra.

With bad flooding taking place on the north coast as these notes are compiled, I may have some news reports of activities of interest which occurs in these areas. Having worked 2KO/P at South West Rocks (near Kempsey) during the last few days, it appears that he is not altogether suffering from sunburn. Last news from him was that he had been completely washed out of his tent, and was operating a portable and his tent emergency quarters on the reserve. 73, 25W.

HUNTER BRANCH

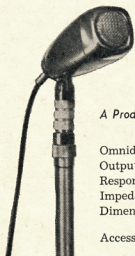
The May meeting of the Branch, held in the University College, was again very well attended, there being thirty-six members and visitors present. At the meeting the first use of the new lecture service of the VK2 Division. Because of the absence of Les 2RJ, Keith 2AKK took the chair for the evening and made a number of other arrangements of approval (or were they?) and at the conclusion of general business, Gordon's tape machine began to play.

The first voice heard was that of Lionel KCS being interviewed on the A.B.C. about the history of Amateur Radio in the Newcastle area. It was very pleasant to hear the voice of the old man even though he was at that moment on the high seas and on the way to G. land. The recorded interview had previously been broadcast in "Newcastle Digest", which is a local programme originating from 2NA each Tuesday evening. Lionel certainly has done a great deal for Amateur Radio and all members of this type maintain the good tradition.

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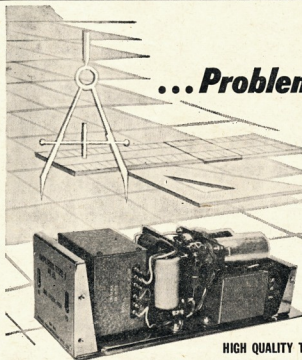
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get just what they have asked for. This is good for the boys that want this gear, but it is very unsatisfactory for those who have to get the gear and dispose of it. So how about it? If you don't want gear, OK, but don't whine. Those who don't want to be got.

Al 4LT, who was ill for a week or more after the Federal Convention, gave a very interesting report at the Central Qld. General Meeting and the boys are getting closer to Federal Hqs., to the advantage of both. The Federal Executive boys really do a very good job. They are now has a lot of respect for them.

A.O.C.P. classes started on 10th May at the Headquarters of the Hares in Brisbane. One of the buildings, Ann St., Brisbane. Entrance is down the side of the building.

The recent Convention at Alexandria Headlands was held there for the purpose of the couraging Wide Bay and Burnett Club members to attend. The attendance from that club was very poor. Possibly they are a good explanation, but any Convention is important these days. Apart from the fun you can have, there is the more serious business of discussing how to hold our frequencies and the pooling of ideas along those lines.

Pleased to hear Stan ASA on the air again after being discharged from hospital. Don 4R3, another old doctor, is in hospital at Greenslopes. The "Kingsfisher" group is still going strong with George 4GG keeping strict control over the group. Bill 4W4 is still as good as cheeky. Don 4DZ takes part from a sick bed. Who are you kidding? Apparently he isn't married! Bill 4WS, who has been ill for some time, is now on the air and is steadily improving in health.

The Easter Scout venture, in co-operation with numerous Scouts in Brisbane, went off very well, but no details are available. Twelve operators were kept busy. The Communicators got very heavy when carried about on various stunts. Bruce 4H, the tall sign given, couldn't find his arm after carrying one for, was it 12 miles? Carlo 4ZCV put in some good work. Confronted by a good number of boys.

Getting back to the general meeting, the financial report shows that we are well in the black, but just paying our way. I am led to believe that ham has never been in such a sound condition.

Where is Peter Rabbit, 4PR, these days. About time you got that finished Jim. Things happen fast in VK4. But as it's the top State, that's understandable. Just got another letter from one of my clock and dagger men, who is in the hospital. He is coming down and now has a TH4 Thunderbird up on the tower. Al 4SS, because of pressure of work, is relinquishing the DX page of "A.R.T." but will continue to supply Jones news to TWI when he can find the time.

The Central Queensland Branch is doing better than ever. They are starting an A.O.C.P. class with 23 starters. Their President (Frank 4FN) is climbing the wall, sorry Frank, climbing masts. He is that pleased with a certain ham in North Queensland breaking in half, that he regularly races up his mast and glories in his position of having a hammerhead in the North Queensland mast will be higher and bigger and better in the not-so-distant future.

Joe 4QJ is busy taking a rig and should be ready to go by the enthusiasm holds the Kookaburra section on the evening of 0700 is now divided between 80 and 40 mc. Quite a lot of activity on 80 mc. Was listening to Steve 4W4 on 80 mc. in the morning. He is a learners last Wednesday night. It was excellent morse and as it was sent at 5 w.p.m. I quite have a good idea of the meaning of it. Steve 4BB sends copprate-cw. John 4RZ takes the cake for the most in beams. He has a 40 mc dipole, 22 ft. 9 in. of it, on a R. L. Z. antenna. He is a good one, moustache. Bill 4WF had a very lucky escape from death a few days ago. Bill was ill just from the floor and he got for the best. Over \$300 damage was done, not to mention the complete loss of his mobile gear. Apart from a bruise, Bill was unhurt.

Pardon me running around these notes like a beheaded fowl, but it's the way I collect notes. I write them in my paper, and then I hope I can get them in later, but still it will keep you on the ball trying to follow what's going on. News on the Central Qld. Branch. They now have 43 students to start. What are you blokes trying to do, I get into enough trouble with the Editor chopping my notes down without any assistance from anyone else trying to make them disconnected. They have a building fund, and to make a short note, I have been asked to give them, they will be given £250 if they find £150. Hope I've got it right Frank.

Well, that's, the way now, so cheerio and send me a little ditto to you PanSy, thanks for reading my notes also. —Uncle Xray.

TOWNSVILLE AND DISTRICT

Sorry chicks for the notes not appearing since Feb. "A.R." but as 4 Uncle Xray was promoted to the writing of the Qld. notes, he was unable to do those for me as yet. Since my last notes appeared I have partaken of the hospitality of the Apple Isle boys. I must say that while in Hobart I was treated as a V.I.P. and my thanks go to the boys for making the trips around the various shacks. Also, the scenic places as far south as Fort Lauderdale and the assistance from the boys. I missed the snow on top of Mt. Wellington by two days, but was treated to some light snow of how deep the snow can really get on top. But had time to go to the v.h.f. meeting and met the ones I never seem to hear on 50 Mc.

While in Burnie met my namesake, VK7ZAA. Would have liked to have worked him, but got pride of place but he is interested in only 144 Mc. so no chance at this distance. While Sydney was in place for a long time in meeting Bill 2AQW, who is often seen in the white cane, and he would like to use it on the commercials in our bands. Naturally met the old man, who is often seen in the Cairns at the end of the long travel met Claude and Alice 4ZY and enjoyed the usual cups, but I had time to go to the v.h.f. meeting for another. Managed to break the journey and visit old timer, Charlie 2ADC, at Casino. He will burn the midnight oil in speaking to Africa and Asia.

Locally, Bert 4LB has gone to Magnetic Is. for a month's leave, so I'll have no QRM for awhile. Ted 4EJ has a mighty rx in the car, but I don't know if he is using it or not. In between times from the goggle or dipole box. Alan 4BE making an adaptor for his car. He has a mighty rx in the car. Nothing doing here on the v.h.f. bands, while 21 and 28 Mc. are practically out as the m.u.f. seems to have mislaid these bands—even the commercials are not heard above 26 Mc. with their power, so what chance have we got in working 28 Mc.

Hope to hear Frank 4FC soon as I saw a parcel of parts being sent along so he will be getting the urge once again. Sorry boys I cannot work you on 7 Mc. due to the extra heavy QRM from local private enterprise on the 7 Mc. Heard Owen 4QV working the boys from the mulga, 4FE, whose time in the bush is fast drawing to a close and he retires to city life. 23, 4RW.

WIDE BAY AND BURNETT BRANCH, W.I.A.

Helped to keep one of the seats warm at the 28th April. The boys were in the bush on 28th April, at which 16 boys from Bundaberg, Maryborough and Gympie answered the roll call. Main item of business at the meeting was to elect a sergeant-at-arms to maintain the enthusiasm of the boys in the Branch because of the long distances that have to be travelled by some of the boys. The Branch is nearly 200 miles from the southern to the northern borders of the Branch, and it is a bit of a strain on the boys to have to attend a meeting every month under such circumstances. It was decided that Maryborough and Gympie centres each form a club of their own. Bundaberg already has their own, attend to the business of their clubs at the monthly meeting in their own home town, and all three clubs meet at the monthly meeting at a central meeting place to discuss the affairs of the Branch and have a special feature each as a technical film, lecture, or a transmitter hunt. That is, if the boys are not everybody go home happy with the day's work.

Gordon 4GH and Bill 4SW plan to start a class at Maryborough shortly. During the lunch break at the meeting a 3000 watt radio-controlled model plane was seen cleaving the sky nearby, so the boys took themselves over to have a close look. The operator stated that he knew a little about radio, mainly what he had read in magazines, etc., where upon Gordon 4GH outlined to him the advantages of doing a course, so he will be

one of Gordon's pupils in his A.O.C.P. class. See what I mean. If you go looking for them you will find them.

Chips 4XR has another class going in Gympie, most of them live out of town, some live in town. These boys are like a certain brand of mustards around their parts.

Have heard that a large stork was seen flying around Elliot Heads lately looking for a place to drop its load. A 4000 ft. 4000 ft. shot got the shot gun it landed and presented Jocelyn 4J3 with a 10 ft. 7 oz. harmonica. It will be a good one for the boys. The President conveys much, as both types wear them these days, but you know what I mean. Congrats. To Rusty and Jocelyn for a good job well done. 12, Fred Cox.

SOUTH AUSTRALIA

The monthly meeting was held on 23rd April to a rather small gathering. Some business was transacted and a report of the ANZ, as the Federal Councillor was sick while.

Al 5MF then gave the lecture for the evening on the design of modern rx's. He brought in a lot of material for our consideration, and also to show that he practices what he preaches. When he finished his lecture, the boys were very happy. He had a lot of Institute lectures in my time, but I've never heard so many questions. Eventually everyone was satisfied, and after a short business session, before the President declared the meeting closed.

Some of those present took the hint, quite a lot of them took the hint, and they came to the meeting. Finally, the caretaker of the building turned up with his apprentices—an albatross, appeared to be roughly the size of a Shetland pony. I had the car with the caretaker while the pooch wandered around the meeting room introducing himself to the members. Another record but the dust that—the time it takes to empty a large room! I reckon we should make him an honorary member. He appeared to be a good boy. He'd worth his weight in ham sandwiches. Notwithstanding the above, he's friendly and a very nice dog—that's in case he can read!

From this point onwards we are over. He was a good dog, the meeting being held, mailed me into coming out of retirement. Hope you had a good holiday, Warwick, and that you had a good time. I'll be minute while I sharpen my red pencil.—Editor.

I thought—I thought—I thought you. May I take the opportunity of expressing the thanks of the Division to you for your splendid filling in during my annual leave. Not only did he compile the notes for the "Mag," but he also took over the weekly notes in the daily paper for six weeks, and he was permitted to say so, performed the unwanted task with distinction. Once again many thanks to you like a bow.

Speaking for myself, I feel that someone should have taken him aside and instructed him in the duties of a relieving secretary. If the Division had a relieving secretary, it would not have been so badly dented. Not only did he outdo me in the daily paper, but he also outdid me in the weekly paper. The sub-editor's desk about twice as much as I have ever been able to do, and the quality of the notes left mine for dead. I have not seen the Division notes in the daily paper, but I planned for about six pages of news, aided and planned by the Editor himself. I understand that the Editor is a good fellow, and may wait their turn to give him news and notes. Yet when I remonstrated with them on their quality of notes, it was to me, that sneeringly said, "It was a good chance to cut you back to size and shrink that big head of yours." Now, of course, flattery normally has no effect on me, and I would not have been so easily flattered. I assure those flatterers that my fountain pen has been filled with acid and during the year they have been writing, I have been doing Joe 5JO called in to see me the other night to tell me that Joe 5JT was in hospital down Brighton way, having fallen from his tower with untimely results to his framework. It is 11 years of age, I suppose, and should be thought twice of climbing around on his tower, but after all, I realise that Radio Amateurs are not perfect. Graham is not the best. Was I right about your age?

Received a letter from Frank 8AE, and among other things he tells me that some 18 months ago he was in the bush, and he was in the bush. The Alice Springs Youth Centre Amateur Radio Club, to wit, Graham Jenkins, had passed his Amateur ticket and would probably be going on to bigger things. Graham is not the best.

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Adelaide University having a shot at his Bsc.B.E., and also a shot at the Bursary and the Commonwealth Bursary. As he had only just turned 15 years when he passed his Amateur exam, he was not permitted to transmit on the air, so he put aside his ideas of Amateur Radio and concentrated on his studies and came out of his saving. He was a good student, five credits. Nice work, Graham, hope to hear from you via 5UA some day. Nice work Frank to you also, not often a protégé turns out trumps like that. Thanks for the letter.

Whilst on my holidays at Oakbank, I was summoned to the local Post Office and handed my usual mystery letter addressed to me in freedom of the press terms. This mystery letter has arrived for me without fail over the last ten years and is probably the main reason why my local curtains are closed. I have seen their doors each time I pass and peer in a decidedly scared fashion through the window curtains. I have never been able to pin down the sender. However one of the local gypsies allowed me to cross her palm with a ten pound note (by the way, there is that ten pound note!) and she said that she could plainly see Norfolk Island natives with bones through their noses and Lord Howe Islanders with Morse keys shoved up their jumpers. This seemed to ring a bell somehow, but as it was going to cost me a further ten pounds for any more visions, I cried quite. If I ever find out who this Arch villain really is, there will be quite a Hewitt and Cry after his skin. Very subtle, is it not?

Heard from Bart 5GZ with respect to the University Amateur Radio Club, which by the way has been somewhat inactive for a while because of studies, etc., plus the fact that the new engineering building is in the course of erection, which meant the aerial coming down for the moment. The SUA rig is in the process of having some of its modifications undone as somebody tried to improve the v.f. to the extent of confusing the issue. How tactful can I be? But all now is well, and by dint of a much hard work and the selling of my gear, they have been able to raise enough money for a new rx. Everybody is more than satisfied with its performance, especially as the aerial is only a piece of wet string at the moment. Have heard them on this week on c.w. on the 7 Mc. band and the signal was louder than ever to me.

Over the past two or three years or so the question of renewing my Amateur licence at the local post office instead of the Receiver of Public Monies has reared its ugly head and also provided me with both targets and ammunition galore. Early this year, to my dismay and sadness, the Department apparently wearied of the position and allowed me to renew the licence at my local P.O. and thus lowered the curtains on a certain paragraph each month in the magazine. Imagine my surprise and gratification to receive, just before my holidays, a letter from the Department under the heading of "Final Expiry Notice" informing me that no trace of payment of my licence could be found and if I was still in possession of radio communication equipment and did not pay up, it was proposed to cancel my licence. Now what about it you mob, I follow your advice and look like having my licence rubbed out. What do I do now Max 2ARZ? Anyway, I live to fight another day. It should be good for another three or four paragraphs. You beauty! Pay your licence at the local P.O.—See you!

Jack 5LR still enjoying his voluntary retirement, although he admits that his XYL manages to find plenty of work for him around the house. He has not been very active for some time now, but is tinkering with the idea of building up a small rig for 40 and 80 mhz and renewing acquaintance with some of the country boys with whom he spent many pleasant hours in QSO back in the "good old days".

The annual fees for the Divisional membership are coming in very well for the new year, but in case anyone has forgotten, now is the time to cough up the sponsorship and become financial. Always remember that you are only a voice in the wilderness by yourself, but as a united Division your voice can be heard in the right places at the right time. I know, I know, you don't think that, but try and get anywhere with officialdom on your own. You are not in the race. Look at me. They even threaten to cancel my licence. You Beauty—got it in again.

All the big things happen in VK5 when I am on leave, and this year was no exception. Scarlett and his wife paid a rush visit to our fair city, arriving by air on Wednesday afternoon, 17th April, and returned to VK3 on Monday, 22nd ultimo, and the same to you. A good roll-up of his friends and XYLs, his friends' XYLs of course, were at the airport to meet him on his arrival, included in whom were Bob 5BO and XYL, Johnny De Cure 5KO,

Harry Cooper, Mr. Peeke (2nd op. to Harry 5HG), Bobby Bruce and his 2nd op. Pete Slattery, the mother and father of Bob, and several locals unknown to my spy. One of the unidentified locals was Jack 5/8, together with his XYL, and I only found that out by keeping my ear to what the wild waves have been saying, but I am glad I did because I shudder as to what would have happened to me if I had slipped up on that one! Dr. Williams took Al and his wife for a trip in the northern area on the Thursday, with Bobby Bruce doing likewise southwards on the Friday, with Saturday being spent in meditation (if that is what visiting Amateurs do on Saturdays), Sunday saw an "open house" at the QTH of "BO", at which the aforementioned gang were joined by Ted 5JE, and I take it for granted that the conversation oscillated between the merits of 7 Mc. from Ted and 3.5 Mc. from Johnny! At the airport on Monday, Mr. Peake and Bobby Bruce were among those waving goodbye, and Al for once in his life was speechless at the hospitality shown him.

Latest news from the Port Pirie Amateur Radio Club tells of their good fortune in acquiring their own club rooms at the Port

Pirie Aerodrome through the helping hand of the Council. Plans are in hand to organise working bees, etc., to paint the rooms and generally make it into respectable premises. The XYLs of 5BQ and 5ZES are starting to haunt the auction sales to pick up tables, chairs, cupboards, etc., and a good time is being had by all. Two meetings have been held in the new rooms, and most of the business has dealt with the formation of a Youth Radio Club, the first meeting of which was held recently to the tune of 61 enrolments, much to everybody's surprise, only about 20 or so being expected. Now my spy, and a female one at that, stresses the point that in such a venture the biggest problem is of course finance, and suggests that any of the city slickers who may be passing through Port Pirie at any time might like to drop off all those spare bits and pieces that have been cluttering up their shacks, possibly for years. A phone call to Pirie 333 will bring someone at speed to take delivery, and of course, anybody who may happen to be in Port Pirie is especially welcome to drop in to either the senior club meeting on the last Wednesday night in the month, or to the youth club meetings which are held alternate Friday



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lights. Well now, how is that? This club is certainly going places, and I hope that Ken IKM has not completely given me away and snatched at this paragraph as he has done, whilst it is hardly my answer to his challenge, it at least shows just what can be done by a combined effort. I have not as yet heard of the combined effort of the thanks Pamela for the news. May I call you Pam?

Stuart SMS can boast of a first class operator in the family and I don't mean maybe. However, when the Navy up to the top of Darwin and if all can be believed, wields a wicked fast. By a series of strange coincidences, Stuart has been able to say hello to Val on the odd occasion that the has happened to be in the shack of one or other of the boys in Darwin.

Claude 5CR has at last found time to erect an aerial, having for many years operated on a piece of wire, and is tickled pink with the results. Claude has not yet as yet heard the signal, but it will have to be good to beat the one from the piece of wire, although Col 5CJ, who lives two blocks away, has an S meter which can speak volumes!

Ron 5VH, being in temporary accommodation, cannot find the space to set up his gear. However, when the new house is completed, the plan of many months will be put into execution.

Leo 5GJ is staging a come-back and his return will be the same pattern as the first and is now above the treetops. Nothing as yet on top, but at least it is in the right position. Leo is still a bit of a mystery, as those missing at the moment and my spy has nothing to report on him. Possibly a search in the c.w. section of the bands might disclose whereabouts, but until then silence reigns supreme.

Dele 5ZSR, Gary 5ZGR and Les 5ZLS are all fairly active on the v.h.f. bands, and above all are solid supporters of the S.E. monthly meetings, and with Col and Trevor, Hutchesson, together with John Lehmann, help to keep the attendance number up. The last meeting of three are anxiously awaiting the results of the last L.A.O.C.P. examination and should know by the time these notes are being read. John has had plenty of training in this "anxiously waiting" business, he recently became the proud father of a bonny bouncing baby boy. Naturally my internationally known warning of "DX before dishes" now becomes "Naviators before nappies"! Pardon me for teasing your thunder Col.

Col 5CJ is still keeping his lunchtime sked on 1 Mc. and is in the process of building a new 100w. tx in an endeavour to compete with the other members of the network. Is this known as "keeping up with the Joneses"? Careful Col.

My espionage agent from Mt. Gambier gently draws my attention to the fact that down that way they have no v.h.f. sections—all are Rarum. I am regardless of the type of ticket held! OK, OK, I will do my new suit of sackcloth and ashes, but I must admit the truth of that statement, even if nobody else will.

Usually manage to contact a couple of the gang at Mt. Gambier from Oakbank when on the holidays. But this year, as I am away from the areas just over the border, but no dice from the Mount. Incidentally, I was the proud recipient of a complimentary invitation to the annual convention of the South Western Zone of the Victorian Division of the V.L.A. Unfortunately for me, and probably fortunate for them, my leave ran out before the date of the convention and I could not accept their kind invitation. However, when the word and news of the Secretary (Don 3AKN) suggested that as I was passing through Vic's. "Ideal City" (his words, not

mine), it was hoped that I would meet up with some of the boys. Again unfortunately, etc., etc., circumstances did not permit of any of the boys to give me time. Don, I might bob up at one of the meetings, who can tell? In disquise of course, there is a price on my head.

Talking of Interstate, I felt that I detected a note of reproach in the challenge issued to me by Ken IKM in the April issue of the magazine, because I never gave it time. Don, on the bandwagon". If this be the case, I hasten to assure him that no offence was meant, and that I am fully in admiration of the scheme, and the efforts of all concerned. I used the words in the modern idiom, to wit, something new and therefore something of interest to all. Regarding the challenge, I am a glutton for challenges, but under the VKS system of running the Division, the Council and President make all the decisions as to who organises what and which, therefore I am not able to accept the said challenge without their permission, and everybody knows of my respectful obedience to that august body! Incidentally, in my remarks regarding the Brompton Boys' Club, the organiser was given the margin for error, and I should have read Joe 5JO and did he let me know! I can say that again.

My holidays were split up into three sections, the first section being a return home to be greeted with the news that a VK4 had called several times to see me and was coming back. Grabbing everything I could reach, I beat a hasty retreat out of the city for a week or so, only to find again on my return that the same VK4 had called and would return. I was not sure how I would you feel, especially after all I have said in these notes re VK4s? Anyway, I decided to stick it out and face the music, and I am glad I did. He turned out to be an S.W.I. named Ben Hall, an extra good bloke, more than keen on Amateur Radio and a good ambassador for VK4 to boot. Nice to meet you Ben.

No sooner did I recover from this shock to the nervous system, than believe it or not, I get a telephone call late at night challenging me to a duel at dawn next morning from an unknown voice. Naturally I turned out to be Ken 3AFJ, who had just arrived for a visit to VK5. I should have been prepared for it, because the VK5 scribe, in fiendish glee and alluded to it some months before, and the name Pincott had been haunting me ever since. However, burying the hatchet (not that it should have been buried), I invited him and the family to lunch, and rushing out and getting some get-well cards to post to VK5 after the lunch, I sat back and waited for my fate to overtake me. Well it wasn't too bad, he brought along his army with him, and armed with gifts for my XYL, and proceeded to charm the entire household with me gritting my teeth. Before you could say "boy my XYL was rushing around digging some of my highly prized plants from the garden and cramming them in Ken's wife's (Joan) pocket, or wherever XYLs keep prized plants, my grandson was whelping in my ear at odd moments that Ken's daughter Judith and her girl friend, Margaret, better known in social circles as she is called, or for me, Margaret, were two "tubbery girls", and finally, in my upset mental state I had sunk to the level of letting Ken blow down my ear on the subject of s.b.b. being sinking so low as to ask him for a diagram on the confounded subject. Well, I can't go any lower down the scale, but I am sure you will say well that we thoroughly enjoyed their visit and rate them as good scouts. We hope

they enjoyed themselves and will come again some day, but please, not for a while, let me regain my self-respect. As a final lump of salt to rub in, Ken delivered a message, a present to me from the gang in VK3 officialdom, which he said they felt would help me to brush up my technical knowledge, and put back on the air. What was it? Well it was a thick book, green in colour, smelling a bit mouldy, all about wireless, with interesting stuff in it, but I have not yet read it, and er, oh what do I care, it was the 1913 edition of "The Year Book of Wireless Telegraphy and Telephony" and I am sure, what a month! 73 de VK3PS—PanSy to you.

— . . . —

WESTERN AUSTRALIA

Well, another Council election has come and gone, together with an Annual General Meeting. As you know, it is required by the Constitution that nomination forms be circulated among members prior to the meeting, and it was most gratifying to me, personally, to know that every member of the Western Australian Division requested my sample of duplicate form of work of such a high standard that they were loath to tear the sheet off and return it, with the result that I am now on my feet, and to accept their responsibilities in the running of the Division and stand for election to Council. As you say, it is a bit of a nuisance (an ego is a thing like an egg with aought on it), but unfortunately it doesn't get new blood into the Council.

Asking about new blood, I believe we have a visitor from ZS land, Jo'burg locality, who is spending his long service leave in VK and will be in Perth for a few days. He is making the call sign of VK6ZS and operating a KWM1 with adaptor on s.b. and c.w., so watch out for that one and give Peter a call.

S.b. reminds me that Peter Bell has been on 80 mx with the Suck Suck Blow and has much improved quality since the visit from me. It is Ken's idea, and a funny stuff, but everybody's getting it now.

Wall GAG is still not satisfied about this business of not giving out signal until no carrier and only half the number of decibels above the best-dressed a.m. signals wears. However, he has settled for leaving a hole in the middle of the signal, and I think it is almost like two times eight by seven plus six, doesn't it? I think a very potent drop anyway. Wall is still a bit of a nuisance, but I believe who can frequency by pressing a key. Yes! I know this often happens when you press the key, but Allan has dozens of them. In fact, it takes him half an hour to get at least one knee to work all these, and Allen even wiggles his eyebrows for effect. All right, I will tell you that I am Hammar organ and you can actually hear all these frequencies! What's that? No! No, Allen will not be bringing it on to the meetings!

Incidentally, Ron 6KW has a very busy time in Sydney for the Easter Convention, and spoke very highly of the arrangements made for their comfort. Congrats to VK3. Ron was never very sure when the sessions began and closed, due to the talks that went on, but he has been there for the last few hours. Over 30 agenda items were dealt with as well as general business and policy matters, so F.E. have enough to keep them going for a while.

Another of our flying Hams is Dennis 6AW who recently returned to duty after six months absence. He has been in the States, and so color t.v. over there, and by the time you read this, I believe we will have had a lecture from him about it.

Don 6FR, George 5GH, is still regaling us with technical titbits on Sunday morning and George certainly covers a range of subjects, and judging by the comments, has an interested and wide audience. All the best, George, and keep it up.

Here one of the shocks. Reading the mail from one night and heard Jack 6BU/say his XYL is doing some study for the ticket and I understand she's not the only one. Lance 6LR also has an XYL who is doing some study, and look back to you both and no doubt Allan 6YL will be pleased to hear from you when you turn up in your own right.

Down Katanning way, we find that Robbie 6XR has just completed a re-building programme in the home and now looks to the more serious and important things, such as T.V.I., s.b. and putting a signal on the air again. Added to Robbie's list of jobs is repairing the quality of the signal. Last month exceeded Robbie's calculations, causing fracture of some of the copper wires. Once more up to the tower, Bob.

Down the G.F.P. The opening of the golf season this month, but after too many high scores and too many lost balls, we are betting he will be back on the air very smartly.

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